

BOARDWATCH MAGAZINE

Guide to Online Information Services and Electronic Bulletin Boards

INTERNET VIDEO

Cornell University's FREE CU-SeeMe Program for Windows and Macintosh - Video Conferencing Via Internet - It's up NOW and You Should SEE What You're Missing Online

**ROCKWELL'S V.FC
MODEM CHIPSET**
**Heart of the New Breed of
High Speed Modems**

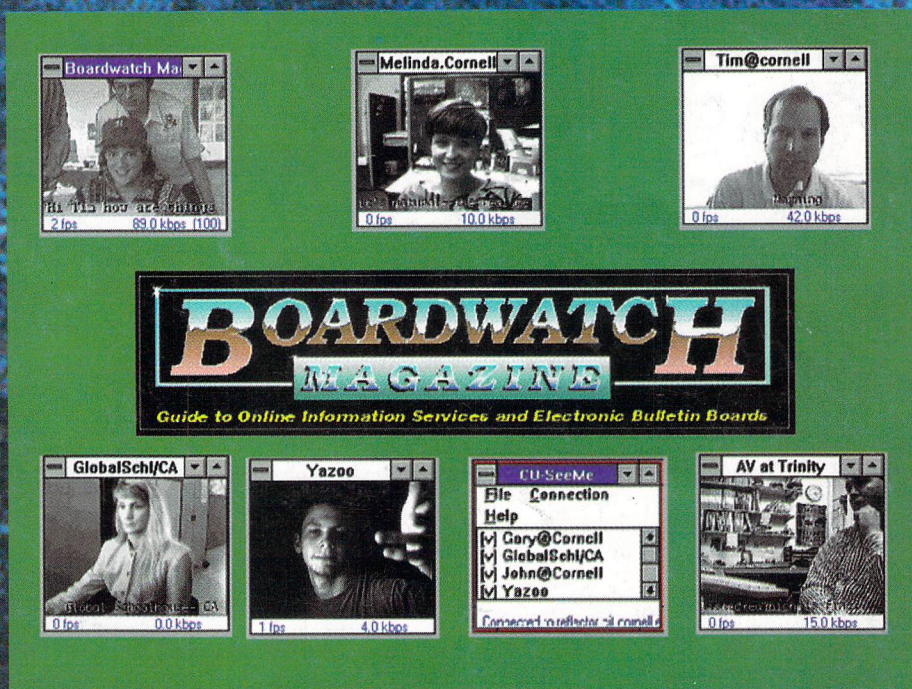
MULTILINE BULLETIN BOARDS

**From the Basics On Up -
How Many Lines from the
DOS Platform?
Galacticomm's Major BBS
Performance Stats**

THE BLUE AND THE GREY
Civil War Reenactment BBS

MICROSOFT FTP SITE

Windows, DOS, Software Developers Library On the Net



 Eric Thav's House



What Can You Do with the Open

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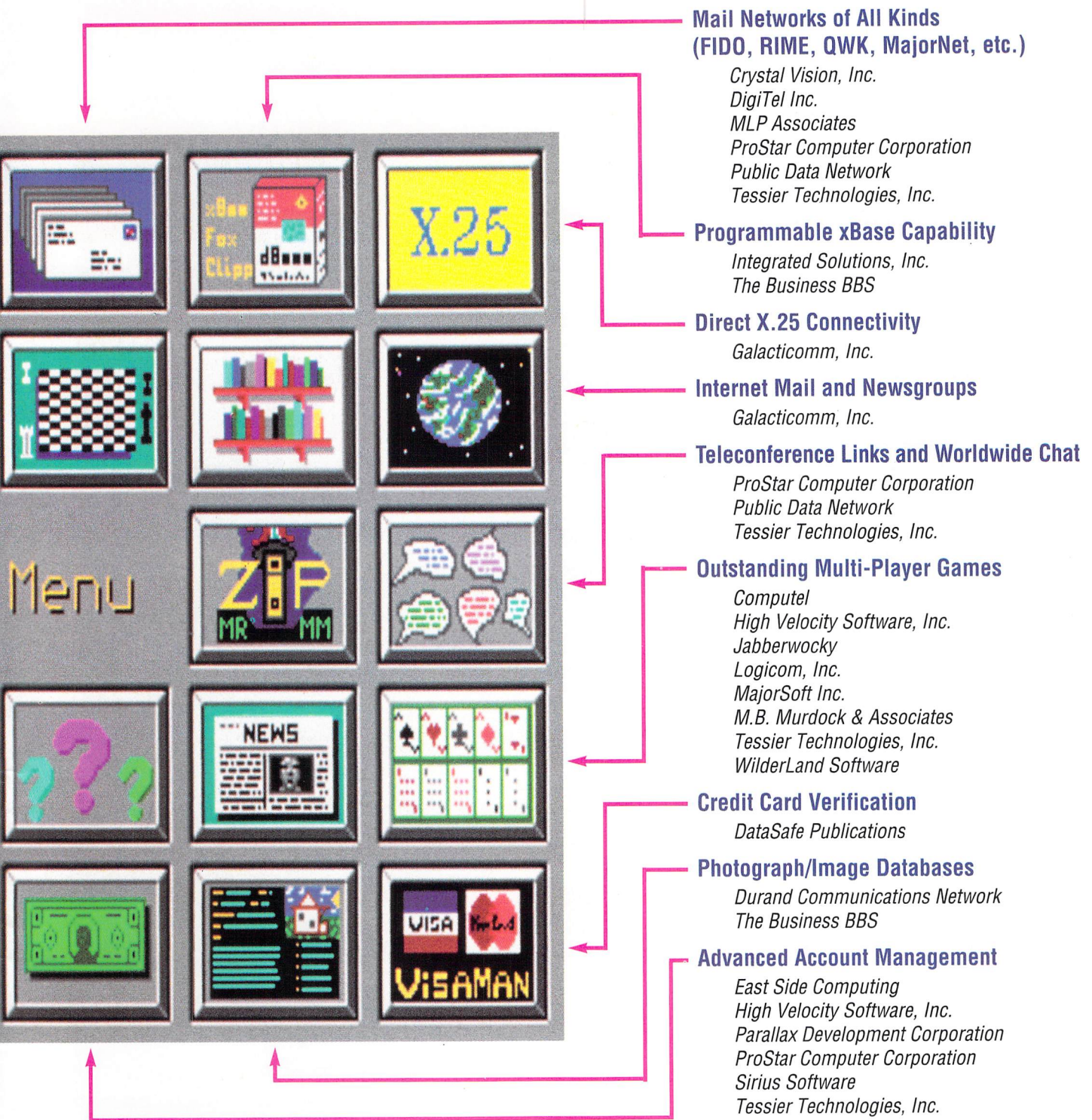
of which is represented here — offered by over 100 third-party developers.

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X.25 circuits, and Novell LAN channels. No other BBS platform gives you this power.

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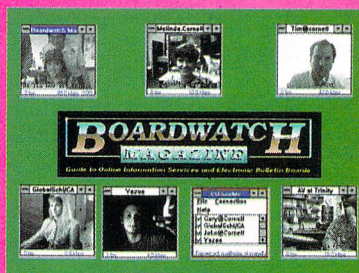
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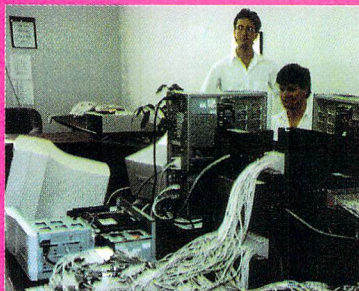


Online Lies and
The Split
Personality

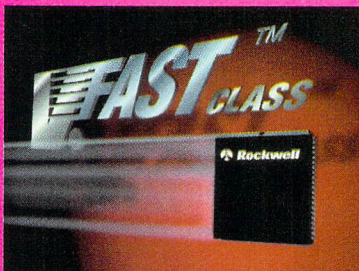
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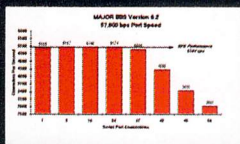
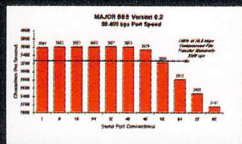
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Only One Multi-User BBS



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You started out to build a multi-user BBS. You had dreams about the service your system would provide, the problems you would solve and the money you would make. But you didn't bargain for the pile of hardware you would live with every day and now it controls your life.

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stration system.



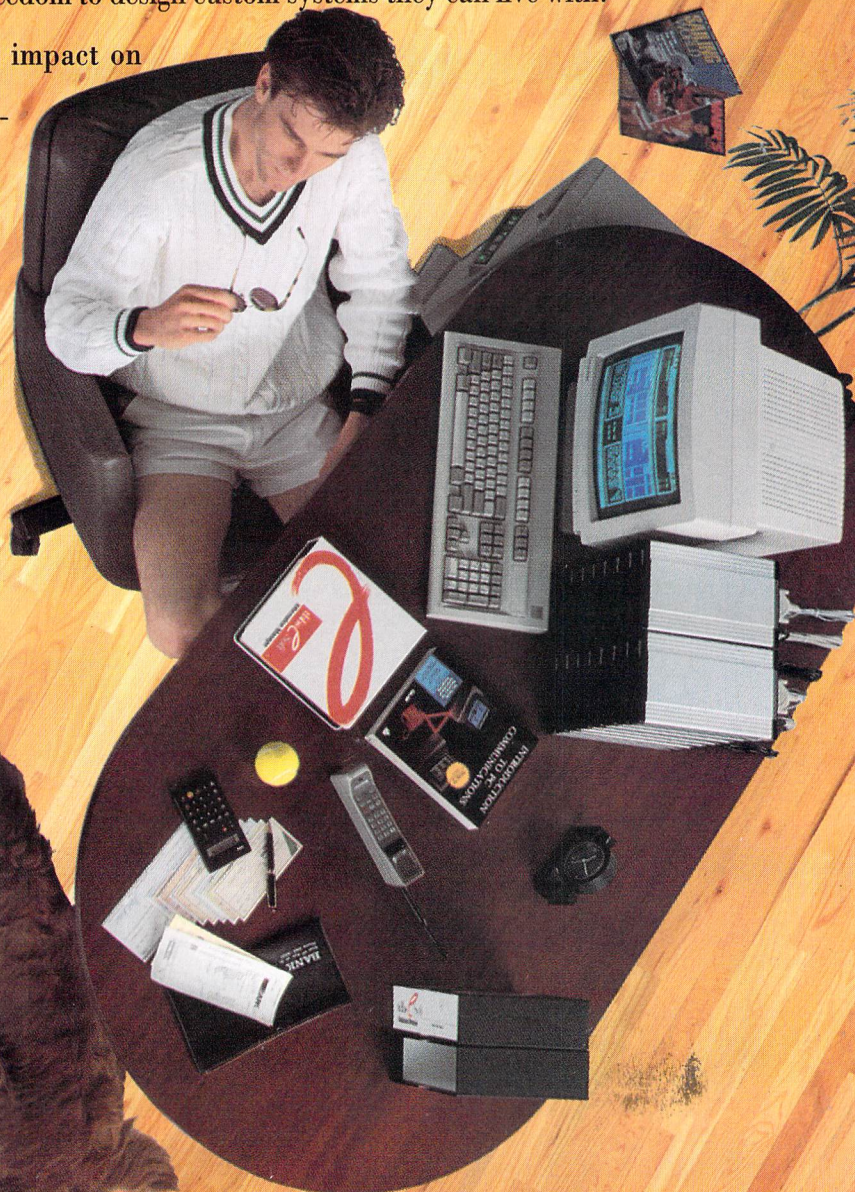
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*Picture shows complete 16 user TBBS/TDBS System

EDITOR'S NOTES

AN OBSCENITY IN OKLAHOMA - AND STREETGANGS ONLINE

Tony Davis was a principal in a tiny Oklahoma rural telephone company and had done somewhat well for himself and his family thereby. He operated a BBS as a hobby and was at one time the FidoNet Echomail coordinator for the United States - well regarded both in his local community and in the wider world of BBSland. By 1993, his BBS OKLAHOMA INFORMATION EXCHANGE had grown to 10 lines - one of the largest in the state of Oklahoma.

Davis became involved in CD-ROM storage early on, and he took an interest in the mastering side of the business. He assembled a number of collections of shareware and titled them "Magnum" as in Magnum 1, Magnum Games and Windows, and Magnum Sight and Sound. After selling a few copies to other BBS operators, he attended ONE BBSCON in Denver in 1992 and actually shared a small booth on the floor with another vendor. His wares to vend consisted of a photocopied piece of paper listing his CD-ROM titles. But by the end of the second day on the vendor exhibit floor, he had gleaned \$23,000 in cash - and a new business. He was riding on top of the world, and ordering champagne all around.

He named the publishing company Mid-America Digital Publishing and went into CD-ROM sales as well as operating a BBS. Ironically, in a field renowned for artless photos of naked fat women with donkeys, Davis's own titles were purely shareware collections for BBS people - most successfully his Windows collection. And it was quite successful. He himself published no "adult" material at all. But as MADP grew, there was a continuous demand from customers for "adult" titles. So he began carrying an inventory of CD-ROMs, published by other publishers, including such notables as Busty Babes I, Extasy Hot Pics, and XXX Extreme. Understand that these disks did contain what "I" would consider gruesomely pornographic material. These particular titles were

available nationally and widely advertised in periodicals including PC Magazine and Computer Shopper. But Davis didn't publish them. He sold them as a distributor. On a national basis, they weren't considered out of the ordinary, but technically, Davis operated in the heart of the Oklahoma Bible Belt. They are still commonly available today.

In May of 1993, undercover investigators for the Oklahoma City Police Department visited the offices of Mid-America Digital Publishing and purchased some "Busty Babes" CD-ROMs. On July 20, 1993, four vice officers raided Mid-America Digital Publishing for the joint purposes of arresting Davis, and videotaping the event as part of a sweetheart deal they had with a local TV station. He was charged with possession, sale, and trafficking in obscene materials. And the tape ran on local television that evening - YOU'RE BUSTED.

During a trial held May 1-5, 1994, Davis was tried on these obscenity charges. The trial consisted almost entirely of showing the jury, which included TWO Christian fundamentalist ministers, a series of the most lurid adult photo images from the CD-ROMs in question, with Davis painted as a threat to children, dogs, and the American way of life. On May 5, 1994, the jury returned a verdict as follows:

Count 1 - Distribution Of Obscene Material (Extasy Hot Pics CD-Rom)

Verdict: Guilty

Sentence: 5 Years in jail & \$1,000 fine

Count 2 - Distribution Of Obscene Material (XXX Extreme CD-Rom)

Verdict: Guilty

Sentence: 5 Years in jail & \$1,000 fine

Count 3 - Possession of Obscene Material (Busty Babes CD-Rom, FAO 2 CD-Rom, FAO 3 CD-Rom, Storm 2 CD-Rom)

Verdict: Guilty

Sentence: 5 years in jail & \$1,000 fine

Count 4 - Trafficking In Obscene Material (Busty Babes CD-Rom, FAO 2 CD-Rom, FAO 3 CD-Rom, Storm 2 CD-Rom)

Verdict: Guilty

Sentence: 15 Years in jail & \$25,000 fine

Count 5 - Using a computer to violate State statutes

Verdict: Guilty

Sentence: 5 Years in jail & \$5,000 fine

Total: 35 Years in jail, and \$33,000 in fines

By the judge's own admission, they're not even certain if computer data is covered by the statutes under which Davis was charged. But he was charged, and is now convicted.

Davis has lost his businesses, his family has been under enormous emotional pressure for nearly a year, gone from a relatively comfortable financial situation to bankruptcy, and he's now a convicted felon facing 35 years in jail. This for selling CD-ROMs of computer data containing obscene images. Apparently Oklahoma City wants to send a message.

Well, we've got the message. The message is that our justice system is now completely out of control. The reason our entire society is living under the constant threat of rape, murder, and assault, that our children should probably be ADVISED to carry guns to school to protect themselves, is that our "justice system" has dropped all pretext of protecting the citizenry from crime. That is no longer its purpose, or its goal. At this point, it exists solely as a tool for social engineering, control and dominance in the hands of government. Though it probably always was, it did for a time operate under the veneer of maintaining civil order. It has dropped that pretext entirely and is now used simply to make political statements and eliminate "enemies of the state."

Davis would have done better for himself and his family with a career as a serial killer. Jeffery Dahmer hunted, killed, and apparently inventoried body parts in his refrigerator from a series of dozens of innocents for years, and did not receive the punishment Davis appears to face rather imminently. Two brothers in California went into their parents home, and slew their mother and father with shotguns as

they sat blissfully watching television. One of them returned to the car to RELOAD, and returned to pump another dozen shells into their bodies - apparently with the intention of reporting it as a found crime and inheriting their parents considerable wealth. They then went on a spending spree for months purchasing Porsches and Rolexes. And after murdering their parents, they then threw themselves on the mercy of the court asking for leniency on the basis that they were orphans. And made it stick. The Menendez trial so far has served most widely as a boost to a new cable network titled COURT TV. And Ms. Bobbitt trimmed the eight-inches most of interest to her husband Wayne from his body with a butcher knife, to no legal consequence - and indeed the plaudits of the femi-Nazi community.

The message is you can do whatever you like to each other - that's none of our affair - shoot children, torture women, and collect body parts as you will. But if your crime falls into the hot zone of someone within the government, you will pay your "debt to society." And so for the crime of selling computer disks with data on them unacceptable to the state and the Baptist church, Tony Davis and his family have had their businesses and material wealth confiscated, their emotional and personal lives wrecked, and Dad goes to jail for 35 years.

We are not on a slippery slope of freedom lost. We now live in and at the largesse and behest of precisely the kind of totalitarian, authoritarian, monolithic "state" evil empire so many Americans fought and died to prevent. It is corrupt, venal, and evil. You will be more severely punished for what you say, or what pictures you view, than you will for serial murder - from my perspective, the final tip of the hand. And it is a hallmark of such systems that truly violent criminals are more adroit at escaping the clutches of this monster than what we would consider law abiding and upright citizens are. The drug dealer treats arrest, booking, arraignment, and sentencing, usually to release, as part of his workaday world. To the salt of America's heartland, it is emotionally and materially devastating.

Clinton essentially suspended the constitution with house-to-house searches for guns in Chicago just recently. He nailed two amendments in one fell swoop. First, you can pass laws from now until doomsday to try to revert the situation, it remains that in our country, it is against the law to PASS any law regulating the possession of firearms by the citizens. The other obvious faux pas is of course the warrantless searches - somehow justified in housing that receives funding from the federal government. Ultimately, if you have an FHA loan you qualify there.

Oklahoma brazenly waives off any responsibility for their direct violation of federal laws in the Davis case. The fact of the matter is, they broke more laws, more severely, than Davis did.

What does it mean when states ignore federal laws, the President of the United States blatantly guts the U.S. Constitution, and trafficking in computer data is more seriously punished than serial murder? In the



near term it means forfeiture of any moral standing for ALL laws. No one, up to and including the President, believes in a land ruled by law, that laws should be obeyed, or that there is any moral "right" or good in obeying laws. It is perfectly acceptable for you to break any law you like, as long as you don't get caught.

What I predict this will mean is that to defend your personal safety in this future world of legal anarchy, you will need to tote a gun - and everyone will

wind up carrying one. While I have defended gun ownership in the past, I don't myself normally have or use them. They're loud, oily, smelly, the ammunition is expensive, and they can be dangerous to have around the house. That was a position taken from the perspective of living in a "civilized" society. In the near future, not only will I wear one, but I'm going to obtain the very best firearms for my wife and my children, and insist that they learn to use them in expert fashion as well and carry them at all times.

On a broader scope, it ultimately means civil war and the eventual violent overthrow of the United States Government. I think it will take some time as they become more brazen in abuse for the body politic to realize it is truly freedom lost - particularly long considering the complicity of our news media. But when they do realize that they are being preyed on by a criminal element, and that the state is part of the criminal element, I really don't think the American public will acquiesce to the situation. It will eventually become more patriotic to fire on Washington than to defend it.

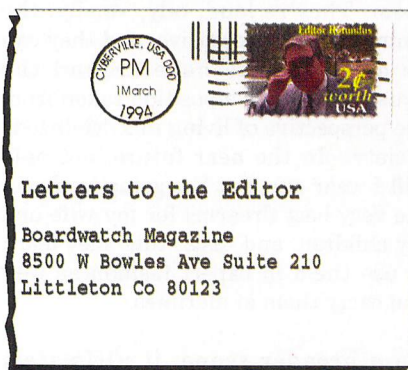
In the meantime, Tony Davis may well become a political prisoner of the system. The first of many I do fear. He is currently out on bail and considering an appeal. I do hope he prevails. But for the rest of us, take care what you say, who you say it to, and what data you carry on your systems. We live in the land of the free and the brave no longer. But rather a shadowy world of secret handshakes and passed notes, under the wrathful glare of an evil empire.

To effectively operate in this environment, we need to find real career criminals and learn from them the techniques for successfully living in a criminal society. The inner-city ghetto black youth aren't the problem, they're just a little early in the curve of learning to play the game. We can look forward to ALL of us belonging to street gangs to survive in a marshall state.

Utopia lost...again.

Jack Rickard
Editor Rotundus
Boardwatch Magazine

IN MY HUMBLE OPINION



Dear Jack -

I'm going to do something outmoded. Something old fashioned. Possibly even downright obnoxious. I'm going to write a letter. A real letter. A physical object of substance. On real paper made from real trees. Paper of an odd size. Spiral bound, so when you tear it out it has those annoying little flakes on one edge that fall off and attach themselves to your clothes. On recycled paper. Bleached. And I'm going to mail this letter in a real envelope with a real postage stamp. And I'm going to lick the gum with my tongue and taste that horrible taste and wish for the thousandth time I'd been surprised with an artificial but tasty flavor. And it's going to be delivered by an inefficient postal system by petroleum burning automobiles and planes.

What a concept.

I don't use pocket protectors, I don't watch Star Trek the Next Generation or Deep Space Nine, and I don't play SimCity or Wing Commander. I don't face Redmond, Washington three times a day and bow my head in prayer. I'm not a techie or a trekkie. And I don't have an e-mail address. I don't even have a computer.

Well, I used to have a computer. Until I came home late one night last Labor Day weekend to a yard full of firetrucks, and a pile of ashes with a few grotesquely contorted appliances where my 3200 square foot log home used to be.

Five months later, living in a 1000 square foot mobile with my wife and four kids, waiting for a new house to be built, I found the thing I miss most, next to space and quiet, is my computer. Sure it made balancing the checkbook as simple as two-column

addition. And it made tracking my bills no more complex than budgeting a trip to buy a pack of smokes. But it was infinitely more than a high tech tool for making life's unpleasant chores easier, or an overpriced toy for making the few leftover hours in a week more enjoyable.

My computer was the other side of the abyss. It was where I immersed myself in quiet contemplation that stimulated intellectual lightning storms and flash floods. It was my clean well-lighted place.

I discovered computers quite by accident, on an AT class machine with a monochrome monitor, at work, running iron age versions of (dis)Enable, DOS, and Windows. By trudging through phone book thick technical manuals with microscopic print, I managed to teach myself, through pounds of trial and tons of error, the basics of word processing and database management.

Eventually the silicon-winged techno fairie cracked me on the head with a keyboard, and the smoke cleared. I began writing procedural language reports and playing around in DOS. A couple of guys turned me on to some shareware games, and I started figuring out what the three letters after filename dot meant.

About the time my boss took a two week vacation I heard about bulletin boards. I don't remember how I found out, or where I got the numbers, but my boss had a modem on his computer (with a CGA monitor no less!) and it didn't take me long to figure out how to work the (dis)Enable communications program. It did take me a while though to figure out what ANSI graphics were and that (dis)Enable didn't support them. And man! Did trying to decipher those menus in ASCII give me a headache!

Anyway, I was hooked. BBS's clinched it for me. I HAD to have my own computer. We were doing a second on the house to remodel, and I weasled on my wife enough that she succumbed to a 386DX33 with a monster software bundle from DAK. The wave of excitement that washed over me the day the computer was delivered never receded. I immersed myself in my sea of software and manuals, SVGA graphics and

color, and achieved a multitude of peak states with every new little feature or trick I discovered. I borrowed a 2400 bps modem, quickly found the Windows terminal program was garbage, and by chance bought a book that included Qmodem Test Drive. I got online, taught myself some telecommunicating, and again was engulfed by BBSing.

I had been toying with the idea of starting my own board, and during the time I've been without my computer I've decided I will definitely take the plunge. This has given birth to at least one dilemma though. I know what services I want to provide, what niche I want to carve out, but I'm starting from zero. Zero hardware, zero software, and damn near zero knowledge. The first two could be a blessing. The last one is frightening.

The only decent reference I've been able to find is Introduction to PC Communications. That's a great starting point. But what I need is more in depth information, such as the type you provide in your publication, but in book form. I need in depth comparisons of BBS software, what each is capable of, what hardware is required, and what third party software is available. I need a sysop's technical Bible written for computer semi-literates. I need a good reference on how to operate a BBS as a business. HELP! Do these books exist? Where can I find them?

One of the things I want to do is provide local calling access to a couple of outlying areas in an effort to link a large area for chat, sigs, and messaging. What I want to know is if by doing that, could I also allow a user to call in on his local line, and out through me on another line to another area I provide local access to, thereby making a long distance call for free. Is it possible, is it legal, and would I have to tie up two lines/nodes to do that?

Lastly, thank you for providing a forum for the dissemination of consistent, accurate, and timely information on BBSing. Your magazine is informative, and entertaining. I salute you for your candor and your wit.

John Rogers
Elma, Washington

Dear John:

I did enjoy your efforts at Hemingway, and found much common ground with your journey toward computer karma. I suspect we'll get you tuning into Star Trek NG before it's all done. The analogy between a computer connected online and A Clean Well Lighted Place was particularly engaging. Most curiously, it depicts the journey from Luddite to SysOp in vivid terms - and in many ways better than I ever have. WHY the perception of some definitive difference between callers and sysops that I detect in the conversations of vendors and many others does not make any sense in my world. You have no idea how often we are asked if we are a magazine for sysops or for callers. I don't even understand the question - and you've illustrated precisely why. This is all about the CONNECTION, and the people on each end move freely through this space - This Clean Well Lighted Space - and may at any one time be on either or both ends of it. The difference between a sysop and a caller is that one of them just can't bring themselves to hang up.

Your desire for the Encyclopedia of All Online is understandable. It doesn't exist. If it did, it would be outdated even as the transport agent evaporated from the ink. This is a field in the throes of birth. It's exciting. It's interesting. And the first definitive work cataloging its history will necessarily be written after it has matured, not during. My own personal interest in it and in Boardwatch expires the day before. So I'll not write it assuredly. From my perspective books are just like magazines, but slow...and very thick it seems.

In answer to your technical questions, most of the multiline BBS packages now offer an outdial facility - usually with some optional utility, allowing an inbound caller to dial out, or often to simply connect out to another machine. I suppose if you order local lines (often called FX or foreign exchange lines) to another area, you can cross connect them. The telephone companies seem to feel this is against the law, or their internal regulations, they get confused about the difference between the two. But it is done quite commonly. And what you describe is not particularly difficult using off the shelf software and hardware.

Stay with us for the journey.

Jack Rickard

Dear Mr. Rickard,

I would like to compliment a Mr. Glenn Brensinger at Software Creations BBS for his handling of what must have been a rather frustrating situation for him. I recently subscribed to SWCBBS to get access to Internet private e-mail and USENET conferences.

Since I live in a small town where no computer services offer local access numbers, I needed to subscribe to a BBS where I could download my Internet mail in QWK packets. This would give me the option of reading and replying to my Internet mail off-line, thus saving costly long distance charges. I chose Software Creations BBS because of their reputation of being the number one BBS in the nation. Anyway, when I started writing e-mail, their off-line mail door kept rejecting my messages. I thought there was a problem with their system, so I wrote messages to Mr. Brensinger every day for a week trying to get to the bottom of it. He always replied to my messages very promptly, and in a gracious and often comical and light-humored manner. Furthermore, I will go as far as to say he was the most courteous and helpful sysop I have ever had any dealings with. He finally figured out that the reason why my mail was being rejected was because I was entering it from my Internet address,

douglas.young@swcbbs.com, rather than as my user name, Douglas Young. He informed me that I should start entering my mail as my user name, then when his system tossed the mail it would insert my Internet address automatically. I am glad that I chose SWCBBS and I believe that it is indeed the number one BBS in the nation.

Respectfully,

J. Douglas Young
douglas.young@swcbbs.com

Mr. Young:

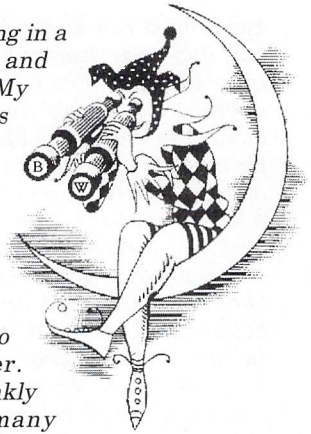
Your letter illustrates quite graphically something that I've been saying for several years. It's been discounted widely, and it was only recently that I even understood why what I was saying was discounted. There was an immediate suspicion that it was self-serving, and that somehow my own personal value, worth, and prospects were tied to the future success of bulletin boards, so quite naturally I would say this. This then is the

penalty for living in a world of hype and overselling. My naivete knows no bounds.

For what it's worth, I lived reasonably well before Boardwatch, and intend to do so after. There are frankly many many publishing venues more profitable than serving a community that does most of its reading online at comparatively no cost. But it did seem obvious to me that electronic bulletin boards, as we know them today and as operated by individuals and entrepreneurs as a cottage industry, would be the natural interface to allow individuals to usefully access a global network - call it the Internet or the Information SuperHighway, or Arkansas Rural Route 4 for all I care. We call this "end user delivery" and it has always fallen on a handful of commercial services along with the thousands of electronic bulletin boards to provide it.

The Internet I first came in contact in the very early 80s was what tied the DEC 20 at Emerson Electric to DOD and other defense contractors. More recently, my contact with it came almost exclusively via UNIX services. The repeated theme in all such contact, particularly with the UNIX services, was that they provided the connection, and if you wanted to know how to use it, hire a consultant. They were the highway department - not the drivers education department, and so on. They were quite up front about it. They did not want people calling them on the phone asking dumb questions about VT100 terminal emulation, file transfer protocols, or anything else. They did express a vision of the entire world connecting to the Internet, but never provided a viable means for novices to make the connection. In recent years, they get better grades for effort, but not effectiveness. They hold a few classes, make a few FAQ (Frequently Asked Questions) documents available, and occasionally disguise the savage UNIX command line with a reasonably comical menu structure.

In my world, the 20 million are not statistically generated mythicals, but rather people with modems AND in some cases lives. And the group that



has helped the new people get online and find their sealegs has consistently been the BBS operators - historically operators running free systems and doing it because they liked doing it and because they thought it a thing worth doing. The irritation of answering the ANSI graphics and file transfer protocol questions for the 720th time was tempered by the realization that they'd just helped another human being "get connected" and join something of a fraternity of people who used this technology. Sometimes I think we overlook this "free service" as something that somehow BBS operators make up on volume - or otherwise make out on. It has indeed historically been a "service" freely given.

Today, we have unprecedented numbers of new people coming online. And I'm disappointed in some ways to report that it still isn't as easy as it should be, and in some cases may actually be more difficult than it ever was. You, as a new caller, must master an amazing array of things that I agree you shouldn't have to deal with, but for now, and for the foreseeable future, you do in order to usefully employ this medium. The Internet connection expands the reach and power of your connection, but has contributed nothing toward making it easier to use.

At this point, on the one hand we have a smallish group of Internet people offering some amazing connectivity, but virtually no help to new callers to use it and in many cases seem oblivious to the need for such things. On the other hand, we have a group of BBS operators with established interfaces and a culture that seems almost devoted to helping new callers learn the ropes of whatever new thing they've found to put up on the system. It isn't so much that I WANT BBS systems to be the Interface for the Internet, it certainly isn't that I in any way personally NEED bulletin boards to be the Interface, it is that I PREDICT they WILL BE the interface from what seems to me to be fairly obvious facts laying scattered about the ground about various groups of technoids and what they habitually DO. Internet gurus connect things, BBS operators explain things. They are destined to marry. I see 20,000 bulletin boards making the Internet connection in the next 18 months. Call me crazy.

And your letter explains why. I'm pleased your experience with Software Creations BBS was positive. I would

like to think it is the norm rather than the exception.

Jack Rickard

I recently voted for my favorite BBS - The Mog-ur's. I voted for the Mog-ur's for the fine service it provides, and the helpful Sysop (Tom Tcimpidis). However, it has been called to my attention that some BBS's offer incentives - that is, prizes, etc. - to vote for their BBS. The Mog-ur's does not do this, and I don't think any board should be allowed to do it. Unless, of course, you are not interested in the "best" but only the "sleeziest." If you permit BBS's to offer incentives to vote, at least have two categories - best BBS based on unsolicited votes; best BBS based on solicited (bought) votes.

One BBS'er's opinion. Take it for what it's worth.

Art Melworm

ART.MELWORM@mogur.com

Subject: BBS Poll

I've already voted in this year's poll. Thanks for the sample copy of Board-Watch. I just wanted to let you know that I felt it's unfair for some BBS's to offer incentives for (buy) votes. Of course on the other hand I don't know how you could enforce a no vote buying rule. Just thought I'd let you know my opinion.

Thanks,

John Armstrong

JOHN.ARMSTRONG@mogur.com

Dear John and Art:

I don't know how we could enforce such a rule either. But more to the point, I don't think we should. Promoting your service is, in my opinion, as American as apple pie.

You call it vote "buying." That is indeed a damning accusation. I rather think of it as rallying the troops to call attention to what they think is the best BBS. In most areas of performance, electronic bulletin boards serve the calling public and in many ways serve it better than any other form of online entity. But in one area, BBSs remain strangely backward. That area is marketing and promotion. And to me, this "vote buying" looks peculiarly akin to marketing and promotion.

Many BBS operators feel it has been a long hard road to reach the point where they can make a few dollars operating a BBS at all. Actually, it's been a grace period. By not being wildly profitable on a large scale, we've avoided the attentions of the marketers. But the grace period is coming to a close friends. In fact, in the office, we are referring to 1994 as the Year of Stupid Money as hundreds of sharp traders show up to explain how they invented it all.

Over the next few years many of those who did all the hard parts, pioneered some of the technology, and held the hands of thousands who came online for the first time, will have the dubious pleasure of watching systems spring up from nowhere in their cities and within months becoming successful enterprises with poorer organization, and really poorer services, because they were aggressively marketed in the area. Many long time boards will fold in the face of the new breed of "marketed" bulletin board. It will seem hopelessly unfair, but actually, it's quite fair. Anyone can do it.

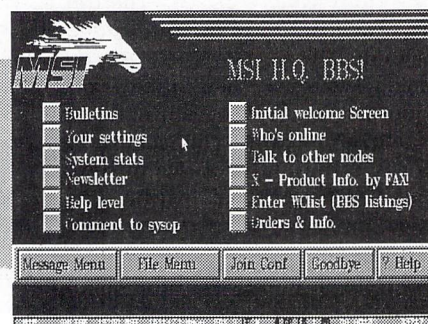
At every stage of development, there have been a few pious souls who sanctimoniously declare themselves above the fray of American commerce, called by a higher order to do something or other. My attention span usually wanders dangerously during the last third of the explanation so I'm a little vague on whatever the something or other is. I think they fear competition and mostly fear to lose. It matters little what I think, the net result is that they opt out of the race.

The purpose and origins of the BBS contest came out of my National BBS List. It was my dialing directory and my list, you don't buy your way on it, you don't apply for it, I select those boards and publish them. The BBS contest was for a commensurate reader response. Our readers select THEIR BBS list, the 100 they like most and we publish that. We've actually incorporated it into a direct mail campaign, those BBSs have been published in several books that have picked up the list, and in general we promulgate it as widely as possible. As a result, bulletin boards appearing on the Top 100 Reader's Choice list have probably benefited beyond all appropriate levels by making the list. There is some implication, and I have even seen some claims, that they are the BEST BBSs. I've never referred to them in that way. They are the Top 100 BBSs in the

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Readers Choice contest, and the only claim we've ever made was that they got the most votes.

There are random drawings we hold awarding those callers prizes - the top modems available in the industry, but I am aware that many bulletin boards make additional prizes available from among those who vote for them. I can hardly complain about callers getting more good news from bulletin boards. But more importantly, if the contest has one peripheral effect of causing bulletin board operators to learn the process of getting out and actively promoting their bulletin board systems to the public, and in the process a couple of deserving boards master this well enough to be one of the thriving online services of the future, I guess I can live with that.

John, Art - get off your high horse. You sound like you've been sucking green persimmons. You can only be "bought" if you choose to be bought.

Jack Rickard

Dear Jack:

I was pleased to see an in-depth, hands-on approach to Internet connectivity in the March issue of Boardwatch. I think you would be surprised about the number of your readers who are interested in detailed articles concerning such topics. Of course what do I know!

After apparently passing your rite of initiation into the world of TCP/IP, maybe you have the answer to a question I have had for some time.

I think I have a basic understanding of the Backbone connecting major computing centers/educational institutions/government agencies which make the major portion of the Internet possible. I also understand the other end where systems such as mine reside, picking up their mail and the odd newsgroup through dial-up UUCP accounts. After your trials to make an IP connection I understand (sorta) where your system now fits into the Internet as well.

Now my question is.....where, how (and maybe even why) do the access providers such as Colorado SuperNet and Advanced Network and Services (or any of the others scattered around the country) make THEIR connection to the Internet.

For example, if I can purchase usage of 56kb leased line or T1 connections THROUGH a provider, how does that connection (of those high-end types) differ from how THEY are connected to the Internet to provide me that service? In other words...where and how do such companies make their connection?

I have read many Internet publications, articles and books, but none have explained this hierarchy in any way that is close to being clear.

And YOU thought INTERNETICA would only interest three readers and a programmer named Phil!

Thanks for a fine publication,

Brian Beck
bbeck@infonation.com

Brian:

The heart of the network starts to look a little mysterious, but it's not actually. In the evolution from Arpanet to Internet, the National Science Foundation contracted with Merit to operate a nationwide "network" termed the NSFNet. Merit in turn, subcontracted a good bit of the actual network building to an entity known as Advanced Network and Services (ANS) actually comprised as a cooperative venture between MCI and IBM. Like most communications technology, you would be disheartened to see the actual physical network. It was simply routers set up in some 21 sites I believe originally at MCI points of presence (POPs) with very ordinary looking telephone lines connected to them. Actually they were leased T1 lines with a 1.544 Mbps capacity originally and more recently upgraded to newer routers and T3 lines (about 45 Mbps capacity I think).

At the same time, the National Science Foundation issued grants to some 32 (again I'm guessing here) "regional" service providers. These regional service providers in turn provided the actual connections to the various universities, educational, and research institutions. NSF did two interesting things with this. First, under the rubric of technology transfer from University to commercial entities, it was somewhat loose with the Acceptable Use Policy or (AUP) and rather vaguely indicated that a number of types of "companies" could conceivably fall under this and be connected for "research" purposes. Secondly, it

mandated that the regionals should ultimately become "self funding" or self sufficient by collecting fees for the connections.

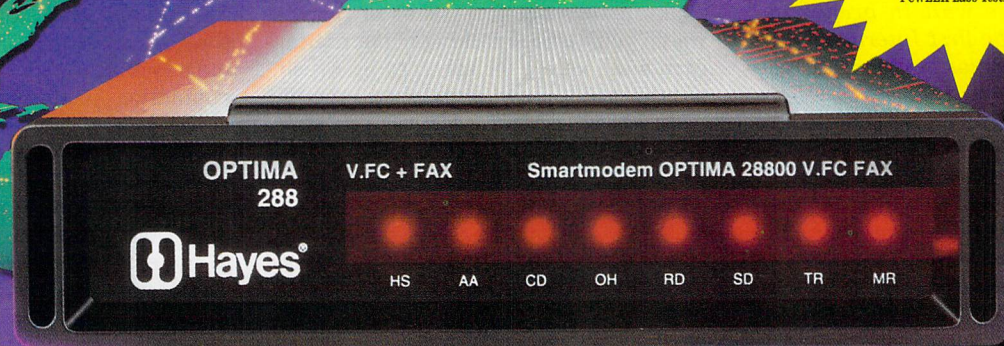
This all gets a little confused because these were grants, in some cases establishing regional providers, but as often as not to EXISTING regional providers established more locally - usually by individual states. Colorado SuperNet, for example, was established as the result of a bill passed in 1985 establishing the Colorado Advanced Technical Institute or CATI, again part of an effort to accelerate the transfer of technology from Universities to commercial endeavors.

In the past two years, the whole thing has more closely resembled a race riot under the influence of bathtub gin. The regionals have spawned, either directly, or through the movement of personnel, for-profit ventures rising out of their earlier state supported or non-profit situations, new entities to "sell" Internet access. Most of these were manned by academics and their efforts at entrepreneurship have been, well let's just say...touching. And occasionally comical. But they're getting there.

Along the way, there have also been some commercial efforts. Performance Systems International, and ANS were early in the game but also companies such as UUNET/Altnet, Netcom, Holonet, and many others have sprung up to provide these connections. Some of these formed a consortium called the Commercial Internet Exchange (CIX). In some cases, they are rather directly connected (ANS remember operates the backbone), in others, they in turn connect through one of the regionals.

The problem all of these face is that they are very nearly selling air. Connectivity is a commodity that appears to defy the laws of physics. First, the more of it you sell, the more of it you have to sell. Second, the more of it available, the more valuable it becomes. But worse, anyone you sell it to can likewise sell it as well. So far, the market has been held in check by a series of contractual clauses of dubious legal heritage we call "dog in the manger" clauses. Basically, when you purchase connectivity, these clauses purport to restrict you to being the final leg in the connection - you are prohibited from likewise reselling the connection. This works more or less if they have some sort of regional

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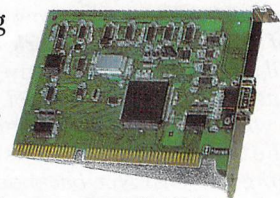
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monopoly, but withers quickly under competition.

Some of the regionals have already jumped ship and signed separate connectivity contracts with U.S. Sprint. Sprint is just now rolling out the concept of "we'll sell it to anybody, and you can sell all you want" which will be the final straw breaking the dog in manger clauses. In fact, we're now seeing local Bell operating companies such as Ameritech and U.S. West jumping in with announcements of Internet connectivity. They aren't actually deploying these at this date, as best we can tell, but they are announcing programs. Within a year, we're not sure EVERYBODY won't be selling Internet access one way or another, and we wait in breathless anticipation of the first Internet Multi-level Marketing plan. It may be the one commodity in the world where MLM finally works - certainly better than it does for vitamins, soap, or motor oil.

Against all this, I hear regular dire warnings that the National Science Foundation will pull the plug on the NSFNet. Actually, they were supposed to last April, and I haven't heard yet whether they actually did, or what we could use to tell. Like the death of Arpanet, you almost have to have special test instruments to detect it, and it becomes more symbolic than real. ANS has a largish network, Sprint has one, even Netcom has their own. If I run a T1 line from Denver to you, we have one too by the way, and this is the future of Internet. It is now actually a belief system, not a network at all. If we all agree to connect at any point, we still are one. The premise of course is that without the government subsidy of the long distance leased lines forming the NSFNet backbone, prices will rise dramatically. I expect, with the increasing competition in T1 lines generally, and the almost hysterically increasing numbers of providers and provider wanna-be's, the impact will be more like a 10 minute respite from free-fall price drops. Within a year, the major component of Internet access will be the cost of the T1 or 56 kbps leased line from your office to the provider POP. Ok, maybe it already is.

The bottom line is that they DON'T make a connection TO the Internet Brian. They ARE the Internet. In most ways detectable from your perspective, they have been for some time. You can pull any one of them out of it and it will heal around the hole

overnight. Actually, that was inherent in the original design goals for TCP/IP Internetworking. Its development was actually funded by the DOD as an alternative communications network for use in the event of nuclear war. It presupposes that whole cities with nodes on the network would be wiped out, and through packet switching and dynamic routing, whatever remained of the network would still function to connect the remaining sites by whatever route was available - and do so automatically and transparently.

Neat stuff, huh?

Jack Rickard

Jack, in the past few issues of Boardwatch you've been talking about digital cash and looking for schemes by which this might be accomplished. You'll probably be interested in a new book called "Applied Cryptography", by Bruce Schneier. This book talks about many aspects of cryptography, including a few pages on digital money. His bibliography lists other sources of information on the topic. I have yet to read the entire book, but it has received good reviews in several magazines.

Applied Cryptography: protocols, algorithms, and source code in C
Bruce Schneier
(c) 1994 John Wiley & Sons, Inc.
ISBN 0-471-59756-2 (paper)

Steven King,
Proprietor of the PShrink Wrap BBS
veck@pshrink.chi.il.us

Steven:

I am interested - just so. Thanks for the pointer to Applied Cryptography.

Jack Rickard

Dear Jack,

Why does it seem that absolutely EVERYBODY on the internet is using a PC, or IBM, or whatever you want to call it? Well until the March 1994 issue of Boardwatch I thought it was just me. I was wrong. In fact, the recent Readers Choice contest results prove I am right. I see that DOS (yeech) took up 58% of the polls! And Windows (Mac ripoff) took 33% of the polls. That's 91% to just DOS and Windows alone. OS/2, and Amiga take out another few percentile points, leaving

the Mac with just 3%. 3%?!?!?!? Well I should explain myself. I am a 15 year old, Powerbook using, PC hating, Militant Macintosh User. I don't like PCs, in fact I hate them. The problem is that the internet seems to be a closed door to us Mac users. When I go into most stores asking to see their newest line of Macintosh paraphernalia, they usually say, "What?", "Huh?", or lead me over to the IBM section (usually 99-100% of the entire store) swearing that this "Windows compatible" version of Lotus 1-2-3 will work on my Mac. Very simply put, the Mac has been shut out by the power of the almighty, albeit weak, PC. Now the PowerPC Macs are coming out, making them even more like a PC. My problem is that it seems that most advertisements and articles are PC oriented, and giving the fact that the term "PC" applies to approximately 90% of the internet surfing population, it almost excludes us. Yes, an IBM PC computer is cheaper at the beginning, but once you get an IBM PC to the same quality as a Mac, you have spent a lot more money than an ordinary Mac. Although it is a hinderance to me as I begin my internet career, I WILL use my Powerbook on the internet. Thank you.

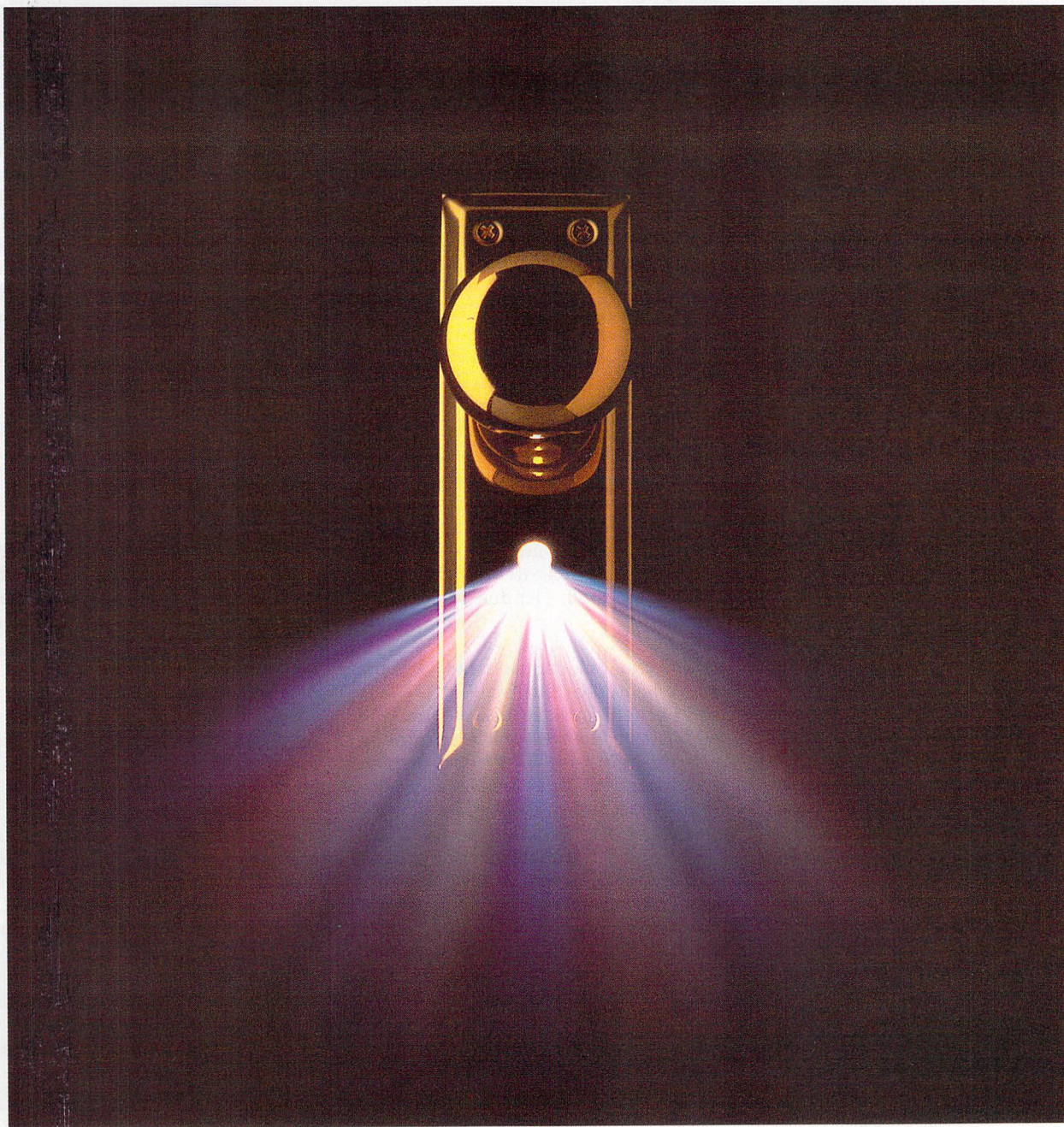
Sincerely,

John Fernandez
iamsumo@aol.com

John:

I hate it when that happens. But a couple of items. First, our survey was primarily of BBS callers, not Internauts. Second, tools for connecting the Macintosh to the Internet are probably a year and a half advanced over the PC versions, where have you been? Macs are very popular in Universityland and as a result Mac connections to the Internet, in general relation to their numbers vis a vis PCs, make it look more like a Mac world than a PC world, even though most of the customs and rites are more of a UNIX bent than either on the Internet. So I'm rather rabidly confused by your entire premise that Macs don't show up on the Internet. I think you'll do just fine with your Powerbook on the Internet. You could probably run your own BBS on the net from a Powerbook.

The reflexive defense of the Mac however, is understandable on a wider front. In "most stores" they stock what they think they will sell. If you're 3%, you're 3%. What are you



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railing about? If you like the box, keep it and use it. If you are wanting the other 97% of us to join your religion, I'm going to draw a "by" on that one personally. This has been the game since the late 70's. If you pick the platform, even the best one, and it loses in the marketplace, you become orphaned and don't have the support, third party stuff, software, etc. that the more popular boxes have. You are under some pressure to "pick a winner" and this works almost organically to drive the world toward standardization. I still think the Victor 9000 was the way to go - what a box - and at a good price too. The Epson with it's Forth operating system and Valdocs was another one I admired - clunky to the point of cute. Fortunately, I didn't buy either one because I knew they were going to be dogs on the market.

Note this well. EVERY TIME any computer company in this industry wanted the whole market for their equipment to themselves, the result was a multi-million dollar write-down or bankruptcy. There is but one exception. Texas Instruments lost over a \$100 million in the personal computer game on this precise point. And in the ultimate irony, do you know who showed IBM and everyone else exactly how this worked? Apple Computer. And do you know who the exception is so far? Also Apple Computer. Karma and the Universe won't allow it. There are no Mac clones. There are very few Mac peripheral manufacturers. The Mac is easy to use because it is a closed system Apple controls. Guess what "the rest of us" really want? Open systems that anyone can manufacture, anyone can design and provide peripherals for WITHOUT the blessing of the god-figure, and applications. Will Apple suddenly reverse course again and embrace this with PowerPC? It's possible - but barely. If they don't, call me crazy, I predict the failure of PowerPC and the bankruptcy or sale of Apple Computer Corporation within 36 months. THAT should draw some mail.

Jack Rickard

Wanted: I would appreciate it if you would print a list of important E-mail addresses. I know in the past you've given the address for the white house and other significant folks but I've never managed to get it all together in one place. This, to me, would be much more valuable than yet another list of BBS's (YABBL?)

Thanks for considering it.

Valerie Kramer
73455.1205@compuserv.com

Valerie:

You've got mine. You've got Bill Clintons. What were you wanting? Something in between? Check out Harley Hahn's Internet Yellow Pages. I think he has Rush Limbaugh listed.

Jack Rickard

Dear Jack:

Let me begin by telling you that I think Boardwatch is the absolute best thing that's come down the pike in a long while. I'm frantic for every issue, read them cover to cover, quote from them for months, and am constantly surprised and delighted by the information gleaned. Kudos to you and your staff!

Now, let me whine just a tad. I know you've addressed this issue before, but let another voice be heard from the wilderness; Boardwatch magazine is getting behind and behind, in terms of distribution. Here in San Diego, I just picked up the March issue - on April 7th. Virtually every other magazine on the rack was dated May. Nor is this unusual, at least for this area. It seems to me that you guys are going to have to do a "Special Boardwatch DOUBLE Issue!" in order to get the rabbit to the starting gate on time in the future. Fine by me.

A 200 page issue of Boardwatch would be just dandy as far as I'm concerned. And what a nice collector's item, eh?

On a different note, I must say I'm experiencing some little anguish also. Anticipation can survive just so long before it turns to angst. A bit of background; I started with a 300 baud modem and a Commodore 64 in 1985. I've virtually been online ever since, much to the dismay of my wife. After about 5 years, I began to get "burned out" on computing in general. A quick examination of how I spent my time showed that without a modem the computer would have been on a shelf in the closet long ago. But, even calling out to 20 or 30 bulletin boards was beginning to get a bit stale. Towards the end of '92 I came across my first issue of Boardwatch. It was then I decided to become a Sysop. I started planning in Jan '93 and my

plans were rather muddled. *Until* I came upon your ad for tapes from the first ONE BBSCON. I ordered a bunch of them and spent many happy hours listening and relistening to them, revising my plans and strategy. In Nov. of 93, Friendz BBS came online. I had learned about setting a theme, printed materials, ease of use, 900 # billing, and countless other extremely helpful ideas from those tapes of the ONE BBSCON seminars. Friendz BBS even has a UUCP connection, which I had never even heard of before Boardwatch. My BBS is doing quite well, and I owe a large and heartfelt "thank you" to Boardwatch.

However, Jack, I have been waiting and waiting for the announcement of availability of the seminar tapes from the last ONE BBSCON, to no avail. I frantically page through each new issue as it comes out, but so far there's been no mention of the seminar tapes. Now you are discussing, with much excitement, the plans for the upcoming ONE BBSCON and still there has been no offer made for the tapes. I'm beginning to get worried.

As you have so truthfully pointed out, the real strength of ONE BBSCON is the exchange of information between Sysops about what works and what doesn't. But honestly, some of us just can't make it to Atlanta, no matter how much we might like to. Therefore, I consider the tapes ESSENTIAL. If I can't be there in person, at least let me listen to what was said. I've found myself straining to hear the side conversations recorded on the tapes, after the actual seminars were completed and folks were just talking among themselves. And picked up some pretty darn good tips too!

So, if it's at all possible, please make the seminar recordings from ONE BBSCON (2) available soon! Finally, I just have to ask - are there any plans for a ONE BBSCON on the West Coast? As a point of reference, there are over 1000 bulletin boards in San Diego alone. If you were to stage a sysop convention here, I'm sure you would easily be able to draw a crowd of 3 to 5 thousand. That would be sysops from San Diego, Los Angeles, Orange County, San Francisco, and others in the Western areas. And of course, San Diego is a resort kind of town, with plenty to do and see, and lots of nice meeting places to choose from. Please consider it. I've heard many local sysops mention that ONE BBSCON seems to be heading farther and

farther East and we all wish it would come West!

Thanks so much for a great info source like Boardwatch. I continue to grow and learn with each issue. I hope someday to pass the operation of Friendz BBS to my son, who is presently 8 years old. He is an avid computerist and having a BBS in the house just seems natural to him. I'm glad for the ability to pass this knowledge along to him and to show him the wonders of online communications as more and more capabilities unfold. I'm thankful for Boardwatch, which tells *me* what to watch for and explore, so I can tell him.

Sincerely Yours,
Gabe Wizard
gwiz@friendz.cts.com
Friendz BBS of San Diego
(619)222-1099

Dear Gabe:

Why don't we do 164 pages, call it the April/May issue, and try to get back on track then.

Sounds like your dosage of online connection is in the increasing tolerance phase - one of the signs of addiction. You really should probably make the ONE BBSCON '94 in Atlanta Gabe. Share your misery with others suffering the same affliction. That said, we do audio recordings of all sessions, some better, and some worse as you noted, but we do record them all. ONE BBSCON '93 was recorded as well, but we're trying to get out of the tape game directly. You can order directly from:

*Sounds True Recordings
735 Walnut Street
Boulder, CO 80302
(800)333-9185 voice
(303)449-9226 fax*

They can fax or mail you an order form listing all available recorded sessions.

Jack Rickard

Dear Brian,

I am terribly embarrassed to have taken so long to thank you for the absolutely WONDERFUL article you wrote about us...it was beyond great, beyond marvelous, beyond moving and beyond all expectations and hopes...it was the truth...but from the kid's hearts and written with such sincerity

and enthusiasm, that I was crying by the time I'd finished it...I swear!

Your terrific conclusion about our BBS being in a class of its own should really help to draw corporate attention in our direction. This is the FIRST article about Ability Online written in a non-health related publication and we really couldn't have dreamt of a more credible letter of reference than an article in a American bbs publication from miles away...but most of all, I was incredibly touched to see how you really captured the essence of the heart and spirit of Ability Online...and conveyed all the courage, all the dignity, all the incredible strength and wit of our magnificent KIDS, from so far away...yes, yes, yes, that's EXACTLY the message we wanted to get across: these kids inspire ALL of us...they make us laugh, they make us stay young, they make us keep on plugging at building a better tomorrow in the the midst of all the cat-fights and back-stabbing and cynicism and violence of our todays...they make us believe anything is possible, when you dare to dream and look for the positives in people and bring them out.. that spirit is far more infectious than chicken-pox and yes, that's what keeps us typing messages into the wee hours of the night..not pity or duty or even the excitement of building an innovative program (and certainly not fame or fortune <grin>).

The truth is we, the mentors, learn more from the kids than vice-versa and the fun we have turning them onto future online is more addictive than any drug, I swear!

Yes, there are risks involved in getting to know and love these great kids: one of our very special little pioneers here, Liam Davidson, died at age 11 on Thursday. That's part of why I took so long to thank you properly..Liam had one of the most infectious giggles you'll ever hear and he caught many an adult here by surprise when he showed up one evening at a telecommunications evening for parents and students at a local high school: you see, he was so knowledgeable about computers that the teacher who invited him was SURE he was at LEAST in his late teens..., and picture his jaw dropping to the floor, when this tiny, frail, little elf, who looked about 8 in person, walked in and started talking downloading protocols and text searches..as if it was the most natural thing in the world for him to play with! hahhahahaha...it was a moment to remember forever!

Anyways...back to the present...James went home this afternoon, as you will see in the note attached below which I just shipped off to Toadie and Aimie and the other two friends who helped him get his modem cooking....

Although he was quite depressed last wednesday, it was really exciting for me to spot, on my computers screen, at home, a message which James had managed to enter ALL BY HIMSELF, late friday evening, after his parents had left, and with no help from any mentor here at all...!!! I danced the mambo around my basement in a celebration cha-cha-cha...for this means James' initiative is back.. he's actually WANTING to talk to the outside world again...and THAT's a critical factor in getting better!!

I'd helped him write that thank you note to you last week...but since the phone lines at HSC are quite "flakey" (my word du week!), and he has only a 1200 modem..we had only selected a few conferences for him at first. I didn't get a chance to add our Internet conference yet..so he may take a while to answer any of your internet messages, ... but where there's a will, there's an AbleLINK way...and zut alors, I'm so happy that James has the will again... thanks to your great article, I'm sure!

Merci, merci, merci...with all my heart!

Arlette Lefebvre
dr. froggie

Dear Jack,

I was as impressed as they come with Brian Gallagher's article about Ability Online bbs. As a user and conference host on a couple of the conferences online,I was ticked pink to see such a sensitive and very insightful article. He seemed to capture the magic (but never the magnitude) of what this WONDERFUL bbs does for the kids online. I have met both kids in the article, and I can personally couch for every word Brian said about them.....Marvelous kids with serious medical problems that have helped a pile of other kids in similar medical binds. They among so many others provide such 'internal healing' for others by giving a boost to other kids....If for no other reason than to say: "Hey,I am glad you guys are here to talk to me!I just don't feel like I am doing this all by myself!.....Oh

great, there are other kids out there JUST LIKE ME!"

As one of the volunteers online that pops into the Hospital for Sick Children here in Toronto to visit any of the kids online who wish to have a visitor (No it isn't mandatory for a user online to have a visitor or be a visitor if they don't want to be), I have met a good number of the users online during their hospital stay. I get such a BLAST out of kids like James and Aimie who have a host of problems on their hands who are just out there pulling for each other and giving others the boost (major shot in the arm is more like it) to keep on plugging (us volunteers, mentors and most of all, the other sick or disabled kids who sometimes need it the very most).

Do us a big favour: Give Brian a raise, and a 50 year contract! You have a winner on your hands in a winning magazine! Face it kids, ya done good (online, offline on the magazine and off!). We're all real impressed up here!

Glen.Ketteringham@ablelink.org

Glen:

Very pleased to receive your letter for a number of reasons. Primarily, a raise and a 50 year contract doesn't quite accomplish the task before us. There are roughly 53,000 journalists employed actively in the United States, and in my unqualified, but nonetheless strongly held opinion, about 75 of them can write. Fifteen of them write well. And eight of them are really quite good.

Brian Gallagher wants not only to be a journalist, but to learn to write. He appears to want it pretty badly, and despite the crippling excesses of a J-school degree, I think if he wants it badly enough, he can get there. But nobody can teach him, nor can anyone do it for him.

There are times though, when "the story" comes along. You can write around it. You can write at it. You can even publish something that more or less serves. Or you can write it - really. To write it, you have to face it and feel it, and commit that in words that others can face - and feel.

Frankly, few have heart enough to do this work. And we tend to wither in the face of stories such as yours - backing away into "professionalism" or cynicism, or humor, or some other

device of evasion. If you back away, you will be forever more or less satisfied with "covering it" by recording the who's and the what's and the where's and the why's in competent if unrelenting fashion. And you can generally always get the BBS number worked in there some place. It's saleable. It can even be informative. It's what most people read most of the time. And it's what we write most of the time.

But if you face it, you know forever what it feels like to do "the story" and ever after you live in a search for the next one. It's the one hurdle you either make or you don't make. And "capturing the magic" is just part it. Brian struggled with this one, and I think ultimately won. I'm personally very pleased he did write your story, both for him and for you. I think it hurt him. I hope so.

Our prayers for your BBS Mr. Ketteringham - and your kids.

Jack Rickard

IMO

I just wanted to say that Boardwatch is one of the few computer related mags that actually makes me laugh, thanks for the great sense of humor! I particularly enjoyed Jack Rickard's response to the NVN people. NVN may be a great service, but they started to lose credibility when all of the letters started to sound just like the one before them. They sure looked like form letters to me. Besides, I've always been a fan of the idea that magazines shouldn't be ruled by their advertisers, which seems to be the case w/ many of the computer magazines around today.

Noah Romer
klevin@eskimo.com

Noah:

Fear not. We'll survive the attack of the NVN. Thanks for writing.

Jack Rickard

Dear Jack,

I recently added Usenet and Internet Email to my BBS. I thought my experience could be interesting reading and possibly helpful for your readers.

I responded to several commercial ads in Boardwatch for Internet/Usenet

feeds and received a significant amount of literature. The procedure for adding the feed to my system was a software nightmare. Mail events to a UUCP compatible mailer, inefficient mail transfers bringing in mail bags, converting these mail bags to a format that my toss/scan program can handle. There had to be an easier way.

Reading the **alt.bbs.allsysop** group, I found a number for a BBS that offered a feed using my fido mailer (BinkleyTerm). In a matter of days (and a modest fee) mail was flowing smoothly.

It is my experience that smaller BBSs are well served by gatewayed mail. The only inconvenience that I have found is by not having my own .com address, I receive Email for all of the systems connected to the gateway.

Ken Eves
SysAdmin DataLine
Fido: 1:270/418
ken.eves@asacom.com

BTW: I will be glad to assist any sysop interested in receiving mail in this manner.

Ken:

To paraphrase, it is not particularly germane as to whether the bear dances elegantly or not, the point is that the bear dances at all. The UUCP connection IS gatewayed mail Ken. Further moving it into FidoNet using BinkleyTerm is gatewaying the gatewayed mail. UUCP is no harder than FidoNet frankly, you are simply more familiar with the tools you have used. And to pile as many cliches as possible into one reply, if your only tool is a hammer, all problems come to resemble nails.

I do not see any particular virtue in trying to marry FidoNet to UUCP. You should be able to do either, or both, from the same BBS without a "software nightmare." But stringing one out on top of the other tends to genetically reinforce the worst traits of both - not the advantages. The reason I originally wrote the PIMP program was to work around the FidoNet Gateway I had in operation since some four years ago, and remove the kludges and misfits that made sending and receiving mail an unnecessarily awkward and clumsy process for our callers. Similar programs have evolved for most of the BBS software packages out there - for almost precisely the same reason. Your callers shouldn't

have to bear the brunt of the "software nightmare" just to send an e-mail message to their sister in Peoria. If they do, your BBS fails to meet the need. And if it does so because you refuse to configure an additional software program, it deserves to fail.

That said, if you feel you must, there are two very interesting programs out there that do a serviceable job of porting Internet mail to FidoNet. They are quite new, and do a better job than most. One is called GIGO. Garbage In Garbage Out.

GIGO0114.ZIP
\$20 Registration
Jason Fesler
2405 Carta Court #4
Sacramento, CA 95825
The Record Place BBS 1:203/7707
jfesler@wmeonlin.sacbbx.com

The second is quite interesting. Written by three programmers in the Netherlands, Martijn Dijksterhuis, Ramon van der Winkel, and Michel van derLaan, they've formed a software company titled Waterline Software Development that offers the WATERGATE program as shareware at \$25. Currently it is in beta version 0.02 in the file WTR2002.ZIP. You can ftp this from TUDEDV.ET.TU. DELFT.NL in the root directory.

Waterline Software Development
Wouter Sluislaaniz
1461 AC Zuid-Oost Beemster
The Netherlands
+31(75)217883 voice
BBS Waterland 2:280/803
+31-2990-40202

We also carry both on the Boardwatch BBS at (303)973-4222 for our BBS subscribers..

Jack Rickard

Dear Jack:

Given your remarks about NVN, I wouldn't advise you to pursue a career in diplomacy— unless you want to become the next ambassador to Rwanda. But you sure know how to liven up a letter column.

As an advertiser— and a former magazine editor— I'd like to make some points that your admirers in the April/May issue missed.

Advertising is NOT a philanthropic endeavor. It is an exchange of

commodities— MY money for space in YOUR magazine— which each side makes for purely selfish reasons.

I don't run ads because I like your face or because I worry about your kids going hungry. I just think buying space helps me sell my product. If I ever decide that ads in your magazine don't earn back their cost— with interest— I'll stop advertising.

And I doubt you run my ads because you want more people to buy Searchlight. I suspect it has more to do with your desire to put clothes on your back, food in your mouth and taxes in the US Treasury.

Second, I don't know if you think my ads are unprocessed fertilizer or God's revealed truth. And I frankly don't care. They're MY ads— as long as I don't say something demonstrably false or potentially libelous in them, I have the right to say whatever I bloody well feel like.

By the same token, they're YOUR articles. I'd obviously prefer to read praise about my products. But as long as what you say bears a passing resemblance to truth, you can say whatever you like.

If I don't like what you say about me in your articles, I have the constitutional right to refuse to buy more ads. And if you don't like my ads, the eleventh commandment permits you to stop publishing them.

Besides, if I wanted to write your articles for you, you might demand the right to do my ads. I like things the way they are.

We already have enough vanity presses in this industry. I enjoy reading a magazine with the guts to spit directly in the eye of its advertisers when necessary. I say "Give 'em hell Jack."

Best,
Geoff Beckman
VP, Operations
Searchlight Software

PS: Do you think governments should pay teachers to smoke encrypted Marlboros?

Geoff:

Very much on point, but so much better made from your position as an advertiser.

OK, so state dinners won't figure prominently in my future. There exists a cynical view of the publishing industry that readers are "marks" purchased by advertisers and the publication basically parades the ads before the readers and somehow makes a buck doing it. I didn't know a great deal about the magazine business frankly, and didn't entirely approve of what I've learned since, so we did it a little differently here. We've had a couple of "incidents" with advertisers almost entirely based on expectations given their experiences with other publications, and our apparent reticence to "play ball." Given the world as it is, I've become resigned to the confusion. Some can be retrained, and some we just have to let go. I have little aspirations to change an industry, we're just going to do one publication in a row my way.

We started as a newsletter, and did not allow advertising at all for the first two years of publication. And the core readership then, and really now as well, were the movers and shakers who DID things in the online community. As such, with everything we write, not only are the readers not "marks," it is an assured thing that a number of them know more about any particular covered subject than we do. We can't "get away" with anything. We're in the slightly uncomfortable position of not being able to fool anyone anytime.

The decision to carry advertising wasn't a financial one at all. It had to do with vendors who wanted to be in Boardwatch, and readers who wanted them to be. Your Searchlight ad is virtually EDITORIAL in Boardwatch - that's what it gives us. Our readers want to know about such things, and they read the ads about like they read the articles. The only difference is, they know they are ads. And yes, barring gross improprieties/misrepresentations, I would no more question what you say in an ad than I would entertain direction of what we say in an article.

If we did as suggested by the NVN debacle, our readership has more pressing things to do than read such drivel, no one would read us, much as no one reads many magazines with much larger subscriber bases than ours. Our mission isn't just to get people to BUY Boardwatch, we want them to actually read it when it comes in. And we're winning on that score. If no one read it, no one would read the ads, and there would be little point in

doing a June issue, for you, for me, or for anyone else. In fairness, virtually none of the NVN correspondents have ever SEEN a Boardwatch, they were simply responding to a posting on the NVN service, worded to appear as a nuclear attack on the home town city hall.

Government pay teachers to smoke encrypted Marlboro's? Why not? More to the point, what are they doing now?

Jack Rickard

Hello,

Some days ago I stay in California and I can read BoardWatch magazine, but just now I'm in Moscow and I can't read this magazine. I'm very love work around with my BBS. Many people on Moscow needs BoardWatch Magazine. Can you help us to find way how we can get this magazine. May be do you have some offices on Moscow, which can sell this magazine for us?

Best Wishes !

Roma Kuzmin

Telephone: +7-(095)-256-15-21

romik@ros2.paragraph.com

Schmitovsky pr. d.14 kw.42

Moscow, 123100

Roma:

I don't think we have any offices in Moscow. I'll be happy to help as I can, but we've never figured a way to get it there, get them to pay for it, and get the money back in a non-fish format. It's actually come up a couple of times. If you can cough up a contact that distributes magazines over there, it would help. I'll ask our newsstand guru, Marty Shafkowitz, to make another stab at it from this end.

Jack Rickard

Hello Jack!

It seems to me awhile back there was mention of the Clinton Health Care Reform policy in a download or FTP'able text file If you could be so kind to help me in locating this information I would greatly appreciate your effort.

After President Clinton's visit to the Twin Cities today, I listened to our President on the radio during a noon-time rally and also during a local

"Town Meeting" on live television this evening, I am even more curious about this whole thing and would like to read the text of this proposal. I would also like to make it available to my uses on the BBS.

I find it in all of our best interests to become as informed about this "reform" as we possibly can. This has the potential to make or break us all when it comes to medical coverage and if I can help educate people so that they can come to their own educated conclusions, I will feel much better. I tried in with no luck this evening calling all over to find this information but had no luck. Please, if you can respond directly to me via the Internet and also reprint this in your Letters to the Editor, it might help a few others find it as well.

Thank you,

Ron Woods

Triad Solutions, Inc.

rwoods@triad1.com

Ron:

If you can help educate people so they can come to their own educated conclusions on health care, I would feel much better if you let me know how you accomplished this feat. I'll show you how to get some information on this document, but I'm not sure it will help.

*The most productive place I've found is the ftp site **sunsite.unc.edu**. Check the path to **/pub/academic/political-science/Health-Security-Act**. They have a number of documents regarding the health plan. This site also has extensive information on the Federal budget. You might find some related items of interest by gopher to **gopher.unc.edu** and they have a **National Health Security Plan** menu entry. You might also telnet **fedworld.gov**, but I've found this system busy most of the time and difficult to get on.*

I've walked completely around this health care circle about a dozen times. I come up with the same answer every time. I don't consider myself a particularly confused person, or even a radical one, and this issue doesn't even look difficult to me. But I keep coming up with the same answer, and nobody has even proposed it. In fact, the Clinton proposal every way I can clock it looks like it exacerbates everything poor in our current system, and kills everything in it that's working. And it does

so in such an airtight 100% manner that I've got to believe it's by design. But I can't figure out why he wants us all to be poor and sickly. It just doesn't make sense. WHY would he want us all to be living sick and diseased in poverty? I do understand that he is bent on controlling every facet of our lives, but who in their right mind wants to control a bunch of bankrupt diseased people?

I am simply not going to air "my" proposal for health care reform because of the ridicule it would cause. But I will show you a technique for getting to the heart of things. It's what I call the "man from Mars" test and I've used it for years - works every time, and works on almost anything. Pretend you're talking to the man from Mars. Never been to earth. Lived in a hut on Mars all his life. Just landed. Now, here's what he sees. People get sick, go to the Doctor, get well. And here's how everything works. He can ask you any question he likes. You have to predict what questions he will have to ask, and you provide the answers. Try to be empathetic to his lack of understanding - he's a bit of a moron by earth standards, actually just totally unfamiliar with the way everything works. Go through all the reasons why lawsuits happen, why electrical sockets in hospitals cost 8 times as much as the SAME electrical socket that ISN'T in a hospital, all the medical equipment, all the drugs, all the hospitals, all the doctors, the works. If you can't provide the corresponding answer to the man from Mars, and he don't know nothin from nothin, go find out how it works and then explain it to him.

If you go through this exercise in detail with the health care system, it always comes up to the same two final questions. What's an Insurance Company? And why do you allow them?

Jack Rickard

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U-1496 plus



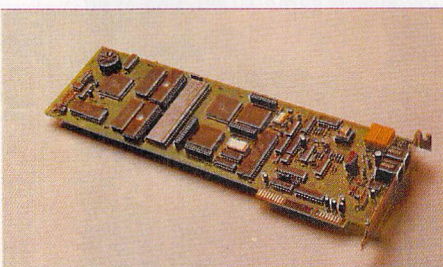
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- ◆ Async/Sync Transmissions
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U-1496E plus U-1496E



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U-1496P - Rugged Portable/Cellular Modem

- ◆ 16.8Kbps Data/14.4Kbps Fax Over Land Lines
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- ◆ Autoswitch Between Land and Cellular Networks
- ◆ Able to Run with AC or DC Power
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Special SysOp Price

\$350

U-1496P

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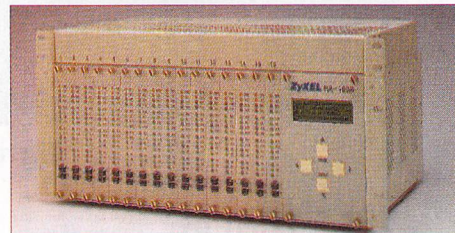
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- ◆ ZyCellular Option Available

Special SysOp Price

\$479

U-1496R

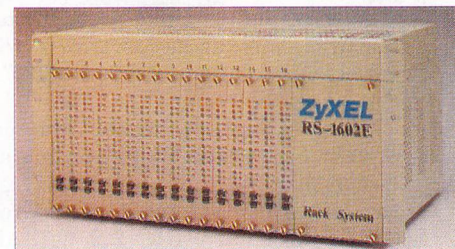
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Special SysOp Price

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RS-1602E

Special SysOp Price

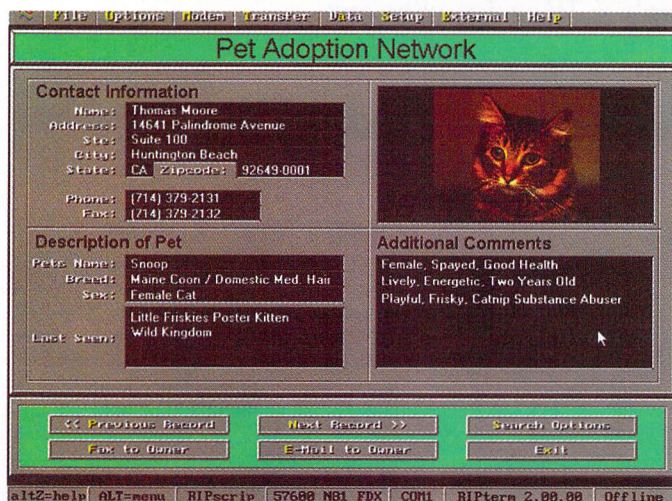
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RIP Version 2.0

TELEGRAFIX ANNOUNCES RIPScrip VERSION 2.0

TeleGrafix Communications, Inc., has announced release dates for its long delayed version 2.0 release of the Remote Imaging Protocol (RIP). The company has said version 2.0 of the terminal program RIPTerm will be available May 30, 1994 with RIPaint and the RIPScrip Language Specification scheduled for release June 30, 1994.

According to Jeff Reeder, "The new versions are almost completely rewritten for version 2.0 support. Many parts were re-engineered for speed and efficiency, and to make room for new features, such as support for a wide variety of resolutions and hardware."

Among the new features, the most prominent is the ability to transmit and display digitized photographic images in the Joint Photographic Experts Group (JPEG) format. RIP 2.0 will also support higher resolutions and colors including 24-bit color images with resolutions as high as 16.7 million. Version 2.0 will also include support for sound, which according to company spokesman Mark Hayton, will support virtually every sound board available for the PC.

Additional information on the new releases is available from the company BBS, The Vector Sector, at (714)379-2135. TeleGrafix Communications, Inc., 16458 Bolsa Chica #15, Huntington Beach, CA 92649; (714)379-2131 voice; (714)379-2132 fax.

The RIP protocol appears to have infected the UNIX community as well. **RIPPLE: Remote Imaging Protocol Programmer's Library with Extensions** is a freeware package to facilitate development of RIPScrip-compatible applications on UNIX systems is now available for anonymous FTP. RIPPLE provides a C-callable interface to all commands listed in RIPScrip

Graphics Protocol Specification, Revision 1.54, by TeleGrafix Communications, Inc. It also includes utilities to convert RIP Icon Files to Encapsulated PostScript and TIFF file formats.

RIPPLE is distributed in source form, along with documentation and sample code. It has been tested on HP/UX, NEXTSTEP, Solaris, and Ultrix. Available by ftp from [sutfro.sfsu.edu](ftp://sutfro.sfsu.edu) [130.212.15.230] in the pub/RIP directory in the file **ripple1.0b2.tar.Z**

BOOKS OF INTEREST

A fairly enormous number of individuals are "discovering" bulletin boards for the first time and the interest in what is needed to start one has taken on a corresponding urgency. We are receiving dozens of e-mail and street mail requests for help in "finding a starting point" or selecting the "right" BBS software. The very pleasant result is that almost all of the BBS software vendors, who just a couple of years ago were shoestring operations if not actually operated from the kitchen table, are prospering quite impressively. The concept of a rising tide lifting all ships is very much in play. We cover these issues in *Boardwatch* more or less continuously, but for a new enthusiast bent on getting a leg up on the learning curve, a book on the topic would be helpful.

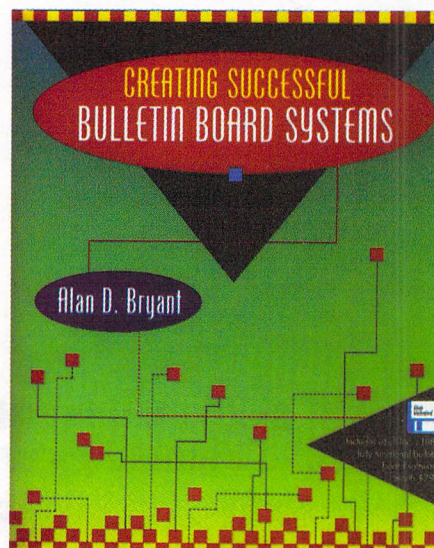
Books are somewhat like magazines, but thicker and very slow. Virtually ALL of the toolmakers in this field release software faster than publishers

release books, and the result is that almost anything said in a book is questionable on publication, and largely misleading a year later. Fortunately, new books come out, and we're seeing better ones all the time.

CREATING SUCCESSFUL BULLETIN BOARDS SYSTEMS

Addison Wesley has been in a flurry of publication in the communications genre in the past year and repeatedly we've found their offerings of the highest caliber. And we think they've thrown another strike with ***Creating Successful Bulletin Board Systems*** by Alan D. Bryant. Just released in April, we would already consider this the reigning handbook for those wanting to start a BBS for the first time, and surprisingly valuable even for those already operating a BBS.

We've always felt that a handy trick for those writing books about bulletin boards would be for the author to have operated one - at least for the afternoon. We first encountered Bryant running a BBS in 1988 on a Tandy Color Computer. He joined Bob Hartman and Vince Perriello in developing BinkleyTerm a popular Fidonet mail program, and he wrote the documentation for BinkleyTerm. Later, he and Hartman both joined eSoft, Inc., developers of The Bread Board System. He's contributed articles periodically to *Boardwatch Magazine*, and has started his own software company developing third-party add-ons for TBBS, most notably a multiplayer adult adventure game titled The Wild



Side that has been very popular on TBBS systems. And he still operates a product support BBS for Bryant Software at (303)733-0773.

One of the most surprising things about this book is that at a price of **\$39.95**, it actually contains a two-line version of TBBS, a software program that has no shareware version, and normally sells for **\$295**. It does not appear to be a "demo" version at all, but rather a full copy of the TBBS two-line version. Those who purchase the book can also register their copy with eSoft at an additional **\$75** fee and receive the full set of manuals etc. Quite a bargain.

Given Bryant's affiliation with eSoft, and the rather unusual inclusion of eSoft's commercial BBS product, we expected Creating Successful Bulletin Board Systems to largely be an installation manual for creating successful TBBS bulletin board systems. It was with a very pleasant surprise, albeit some confusion, that we found TBBS was hardly mentioned in the book at all.

Creating Successful Bulletin Board Systems runs very true to the title. Again a surprise, Chapter 1 is titled Deciding Whether to Start A BBS, and provides some excellent description of what bulletin boards are, why you might want to run one, what they can realistically be expected to do, and as valuably, why you might not want to run one. It includes some very realistic advice on the amount of time required to plan, install, and operate a BBS.

Chapters 2 and 3 cover planning your BBS and selecting basic hardware and software to run it. Again, the descriptions were useful at a general level and covered the differences between multinode systems operating on LANs and multiline systems (termed "integrated in the book") running on a single PC. It also provided some insight on such subjects as estimating the number of telephone lines required to serve a particular caller group.

Chapter 4 covers enhancements such as CALLER ID, offline mail readers, mail networking, document search and retrieval, fax transmission, CD-ROM's, callback verifiers, and other popular gee-gaws of interest to BBS operators.

Chapter 6 covers connection options, and contains some valuable

information on purchasing telephone line service from the telephone company, hunt groups, residential/business service, 800 numbers, X.25 networks, LAN access, Internet services, and provides some cost comparisons for these.

Chapter 7 covers installing your BBS. Again, it is generalized to cover virtually any BBS and the things you will need to do to setup a user database, file areas, mail areas, how to organize files, where to get files, using questionnaires and surveys, subscribing to information services to carry on your BBS, chat facilities, and so forth. This does not go down to the level of specific installation options of any software, but rather gives an overview of the things you will need to do with any software to get a functional BBS in operation.

Chapter 8 is titled Operating Your BBS, but it actually delves into how to emotionally BE a BBS operator, the ethics required, dealing with callers, the pitfalls of ego, and some interesting observations on caller psychology. It also deals with how to PRICE your BBS describing the different subscription models, and further deals with credit card merchant accounts in a very realistic way.

Chapter 9 is titled Finding Users for Your BBS, but really deals with how to market a BBS. This is probably the best chapter in the book. It deals with the basic BBS marketing conundrum, should you target people who are interested in your niche, a few of which have modems; or should you target people who have modems, a few of which are interested in your niche. We've never seen this marketing conundrum dealt with outside of Boardwatch and it is crucial to the success of any BBS. The chapter covers BBS lists, press releases, advertisements, posting on other services, direct mail marketing, local computer stores and user groups, and so forth in a very credible manner.

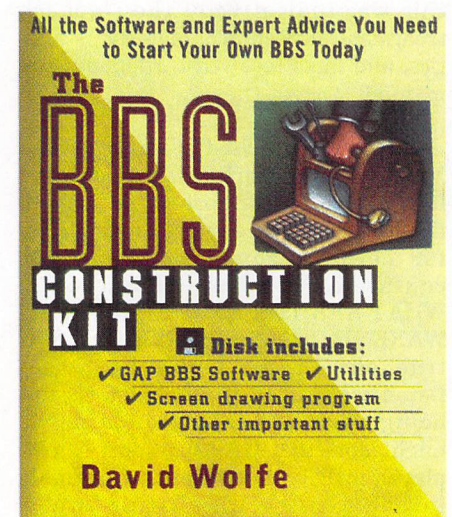
Chapter 10 addresses various business and legal matters pertaining to liability, taxes, and so forth. It's treated briefly, but competently. An Appendix provides some very good lists of BBS software vendors, graphics technology vendors, credit card merchant accounts, Internet service vendors, long-distance carriers, and modem manufacturers.

The writing style is readable and understandable and the layout of the book is visually very easy to read, or to locate specific information easily.

Overall, my own personal reaction was that in many areas this book did not go into sufficient technical detail. This is probably a good indication that the book is right on the mark in its mission of providing an overview to novice BBS enthusiasts. It cuts a wide swath through the questions we hear most often - providing those interested with a good picture of all aspects of choosing, purchasing, installing, and operating a BBS for a variety of purposes. We're actually awash in detail, what the industry needs is an overview putting it all in useful perspective. As such, Bryant's Creating Successful Bulletin Board Systems provides the best introduction available in print on starting your own BBS. The almost offhand addition of the fully functional two-line TBBS Version 2.2 software as a \$295 freebie, makes this book the bargain of the year in print, and very much a class act. Our highest recommendation. Creating Successful Bulletin Board Systems by Alan D. Bryant, 393 pages, ISBN 0-201-62668-3, Addison-Wesley Publishing Company, Trade Computer Books Division, One Jacob Way, Reading, MA 01867; (800)238-9682 voice.

THE BBS CONSTRUCTION KIT

David Wolfe has written a book titled *The BBS Construction Kit*, published by John Wiley & Sons, that represents the other end of the spectrum. It presents an enormous amount of detail, almost all of it wrong. *The BBS Construction Kit* is actually an installation manual for



GAP Development Company's GAP BBS software. Wolfe does operate a GAP BBS in Indianapolis titled **Pandaemonium**, not only a fetching title for a BBS, but one that would have been equally apt applied to this book.

From the Introduction on, this book was a horror. In the Introduction under the heading Why Should You Believe Me, Wolfe notes that he does run a small BBS in Indianapolis with some 1200 users, and that it crashes a lot. He asserts that fixing things and getting them back in operation is "better than watching old Gilligan's Island reruns." We're not so sure. Gilligan has been around a long time, and not without cause.

The entire book is focused on installation of the GAP BBS software, which is included with the book. What is not mentioned anywhere we could find in the book itself is that you don't even GET the GAP BBS software with the book. You get a crippled version of GAP limited to 20 users in the userlog. You can do the setup and design of the BBS with the supplied software, but if you want to add a 21st caller to the userlog, you must send in a registration coupon and between \$55 and \$251 depending on node count to GAP Development Company. The author actually states on page xii that "With this version of GAP, you can set up a fully functional BBS." This is demonstrably untrue and grossly misleading. We found NO mention of the 20 caller limit in the book itself, though Wiley did mention it in a reviewer's note card they sent with the copy. They also noted that there were some 350,000 bulletin boards in North America alone (there aren't), some 10 million BBS users worldwide (there are a little more than double that amount), and this was indicative of the slapdash treatment all technical material, statistics, and facts received throughout the manual.

We were surprised to learn that the Microcom Networking Protocol had five levels of error correction (leaving those who specifically paid for MNP10 for cellular connections a little confused I'm sure). The section WHAT ARE THE MAJOR BBS SOFTWARE PACKAGES in Chapter 1 was trite, and all BBS software packages listed were basically derided as not being up to the GAP standard. We might note that GAP is almost a non-player in BBS software, and virtually invisible in the BBS listings we've

carried in Boardwatch. In fact, the treatment of PCBoard, Wildcat!, Spitfire, Searchlight QBBS, RBBS, and TBBS was snidely and sarcastically abusive, and in all cases simply inaccurate. The Major BBS didn't even get a heading of its own, but it was noted that "if you aren't a programmer, you should stay away from this one." Since the vast majority of Major BBS operators are not programmers, we haven't a clue what Wolfe suggests they do, beyond turning off their machines and telling their callers to go home.

The book does contain a plethora of little items of interest and tidbits of general BBSing lore that would be engaging, but our trust of the author has by this time been destroyed. A brief spot accuracy check indicates he does indeed have parts of it right at times. For the uninitiated, we can't imagine how they'll separate the wheat from the chaff. As a result, we would not even recommend this book for the 15 or so GAP BBS operators out there, much less the generally less schooled who are looking for answers. At \$27.95, the best we can say is that you're nearly \$28 ahead of the game by passing this one by. The BBS Construction Kit, David Wolfe, 373 pages, ISBN 0-471-00797-8, John Wiley & Sons, Inc., Professional, Reference and Trade Group, 605 Third Avenue, New York, NY 10158; (212)850-6172 voice; (212)850-6088 fax; Internet: jdemarra@jwiley.com.

TIPS, TRAPS & TECHNIQUES FOR TBBS

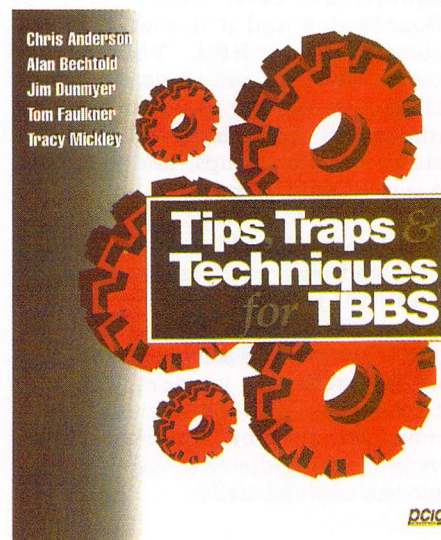
Software, including BBS software, comes packaged with documentation. A few particularly methodical and/or squeemish software users will

actually read it in places. But the documentation typically covers the basics of operation, and most of the features will be documented, or at least alluded to, somewhere therein.

This book is unique in a number of ways. First, it is specific to eSoft's The Bread Board System (TBBS) software package. But secondly, it only vaguely resembles a book at all. It is more an anthology of operating techniques garnered from five very experienced TBBS operators - some of whom have been running this software in one version or another for over a decade. And it isn't really documentation for the software, but rather techniques for using eSoft's software, third party utilities, freeware and shareware utilities, batch files, and anything else they can lay hand to, to accomplish various specific tasks. As such, it's a bit shy of the classic fireside read, but a treasure house of ideas if you already run TBBS as your bulletin boards system software. It is detailed to the point of obsession.

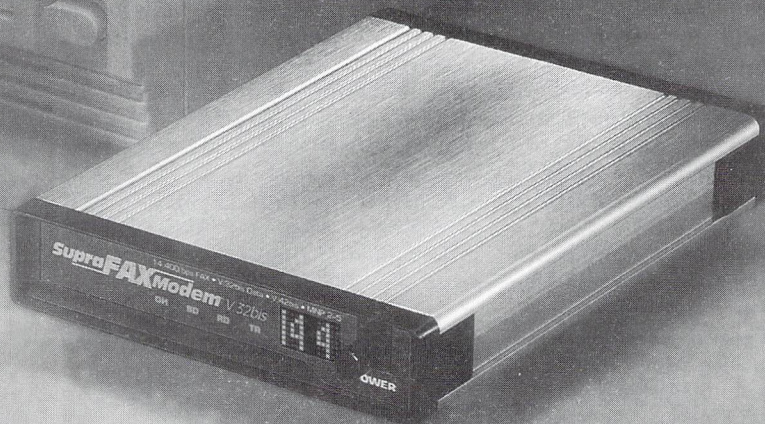
Tracy Mickley started a TBBS system in 1985 using TBBS and has actually written a number of TBBS statistical utilities under the banner of Flatland Software including TSTAT a dayfile analyzer, TBILL, a time/usage billing package, USTAT for user statistics, and FSTAT a file transfer statistics utility, and MSTAT, a Fidonet mail statistics analyzer. Mickley apparently likes to count things. He wrote the CONFIGURING YOUR SYSTEM section detailing how to configure caller questionnaires, the chat function, language editor, message and file areas, and menus as well as general trouble shooting techniques. It also covers how to schedule events, develop registration scripts, and customize text files with insertion parameters.

Jim Dunmyer, in addition to his role as the man who forced Boardwatch to start a Letters to the Editor column, has incidentally run a TBBS system in Toledo Ohio since the mid-80s and is considered something of a pioneer in applying CD-ROM technology to bulletin board systems. His section on USING LAN'S AND HARDWARE WITH TBBS covers not only CD-ROMs, but also the concept of "nanny" machines that operate on a LAN to do various TBBS mail processing tasks, perform tape backup, etc. with the system still up online. A topic on power conditioning provides one of the best descriptions available of



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power supplies, battery backup, and line conditioning devices.

Chris Anderson has operated a TBBS system since 1986, originally on a TRS-80 Model I titled The Dinosaur Board to support obsolete computer systems. He joined the international FidoNet in 1988 and has served as Net Echo Coordinator here in Denver for Net 104. He's become something of an authority on configuring FidoNet echomail systems and has written the section TBBS INTERCONNECTION detailing the mysteries of FidoNet mail systems, Internet mail connectivity, and goes into excruciating detail on connecting a TBBS system to the wider world of mail. This is probably the most valuable section of this book as these wide-area connections consistently give BBS operators the most difficulty in configuration.

Tom Falkner authored the section on TDBS FOR NON-PROGRAMMERS. TDBS is The Data Base System, probably the most popular option module offered for TBBS by eSoft. TDBS gives the TBBS system a dBASE/XBASE compatible database system allowing all callers (up to 64 lines) to simultaneously access the same dBASE compatible .DBF database. But additionally, it provides a dBASE compatible development language, you can write programs in the dBASE language, and actually compile them to run on your BBS. You'll often hear that TBBS cannot run door programs, but you'll also hear few complaints about this from TBBS operators. TDBS is largely the reason. There is a booming third-party market offering games, catalog programs, and so forth all written in dBASE. Falkner is one of those third party developers and one of the programs he wrote gives a TBBS system the same GO KEYWORD function found on CompuServe, as well as a Restuarant Review program, and a number of games. We don't know why this section was titled TDBS FOR NON-PROGRAMMERS, he immediately launches into a pretty fair explanation of how to write TDBS programs, complete with code examples.

The final section of the book is HOW TO PROFIT FROM YOUR BBS by Alan Bechtold. Bechtold founded BBS Press Service in 1984 to electronically distribute a weekly e-zine titled INFOMAT, no longer in publication. He currently publishes SYSOP NEWS, a monthly tabloid covering the BBS community. That said, this section

seems strangely out of place in a book of technical tips and techniques. It doesn't help much, offers very little new information for the genre, and isn't even particularly original. But it is broadly accurate and doesn't noticeably hurt anything either.

One of the most valuable sections of the book is Section 6, the Third Party Vendor Reference. This is pretty much a database of programs and utilities available for TBBS. But it comprises 44 pages and over 170 different titles. Despite the naturally time-sensitive nature of this data, it would probably be worth the price of the book to a TBBS operator just to have this ready reference of contact information and available utilities.

TIPS, TRAPS & TECHNIQUES FOR TBBS is a little loosely woven together, and not likely to be of any interest to those not operating, or considering, eSoft's TBBS software. But for those who already operate it, I not only can't think of any reason an existing TBBS operator wouldn't cough the \$32.95 purchase price of this book, but find it remarkable that the book exists at all. It's a service to the TBBS community. Will this concept of sysops writing guidebooks for other sysops catch on? **TIPS, TRAPS & TECHNIQUES FOR TBBS**, 314 pages, \$32.95, ISBN 1-879705-02-8, PC Information Group, Inc., 1126 East Broadway, Winona, MN 55987; (507)452-2824 voice; (800)321-8285 orders; (507)452-0037 fax.

HOW MANY BULLETIN BOARDS ARE THERE?

Much of the fascination with new technology revolves around the question of how many angels can dance on the head of a pin. And a community made up almost entirely of millions of individuals operating for the most part all by themselves in the basement or den with a computer and perhaps a cat is especially prone to try to find the limits of their universe and define a precise size and shape for this thing they are part of.

Not only can estimating the size of this universe be a challenge, but defining what universe we are talking about and agreeing to the definition of terms can consume several afternoons and accompanying bottles of gin in the process. Some callers appear to be everywhere and you see enough redun-

dant instances of the same jackass typing the same flaming messages in what seems like hundreds of conferences on hundreds of different bulletin boards. Does this imply that there are about 40 callers online - each with a case of keyboard hyperthyroid dementia?

Even defining what a bulletin board is can be a task. Many companies run BBS software on PC type equipment for the purposes of communications, but they aren't really open to the public - they are used for internal communications purposes only on very private telephone numbers - and as a result they are of very mild/virtually no interest to us.

But it is possible to make some educated guesses and rudimentary statistical assumptions to come up with a basic feel for how many bulletin boards answer with tone in the night. Let's define a BBS as a single system with one or more telephone lines that would welcome a call from a stranger with little in the way of prior arrangement or private arrangement for access. The short version of this is "yes, it's ok for you to call it even if you haven't been there before."

We're often asked if our national estimates of BBS population include such giants as CompuServe, AOL, Prodigy, and so forth. I've always puzzled over the question. Let's say yes. Or no for that matter. The point is, the granularity and accuracy of our estimates is not sufficiently definitive for the addition or not of the 10 largest services online to avoid being swamped in the rounding errors. We can perhaps get within the range of plus or minus 500 bulletin boards with a reasonable confidence level. Whether we include the top 10 or not becomes a bit moot.

Our favorite methodology for determining BBS count revolves around the ratio of bulletin boards to population. We can select a series of sample cities and compare the number of bulletin boards to the U.S. Department of Commerce figures for population for that Metropolitan Statistical Area. This is a bit imprecise because bulletin boards tend to cluster in local calling areas, and if part of a local MSA isn't actually within local dial reach of some of the listed bulletin boards, you're mixing your apples, oranges, and other fruits in a pretty chaotic fashion. Local dialing areas, MSA's, and avail-

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File Transfer Protocols	10	13	16	8	5	8
Terminal Emulations	34	32	22	8	6	16
Background Mode	✓	✓	✓	✓	✓	✓
Built in Text Editor	✓		✓	✓	✓	
GIF viewer	✓	✓		✓	✓	
Sound Card Support	✓					
RIPscrip Graphics	✓					
FAX Send	✓				✓	✓
FAX Receive	✓				✓	✓
Script Compiler	✓	✓	✓	✓	✓	✓
Script Debugger	✓					
Quicklearn Scripts	✓	✓	✓	✓		✓
Queue Dialing	✓	✓	✓		✓	
Group Dialing	✓					
Iconized Phone Book	✓					✓
Auto-Doorway Mode	✓					
Drag/Drop File Xfers	✓		✓	✓		✓
Macro Keys	✓	✓	✓	✓		✓
Customizable Host Mode	✓	✓	✓	✓		✓
Comm Ports Supported	1-9	1-4	1-4	1-4	1-4	1-4
Interrupt 14 Support	✓		✓	✓		✓
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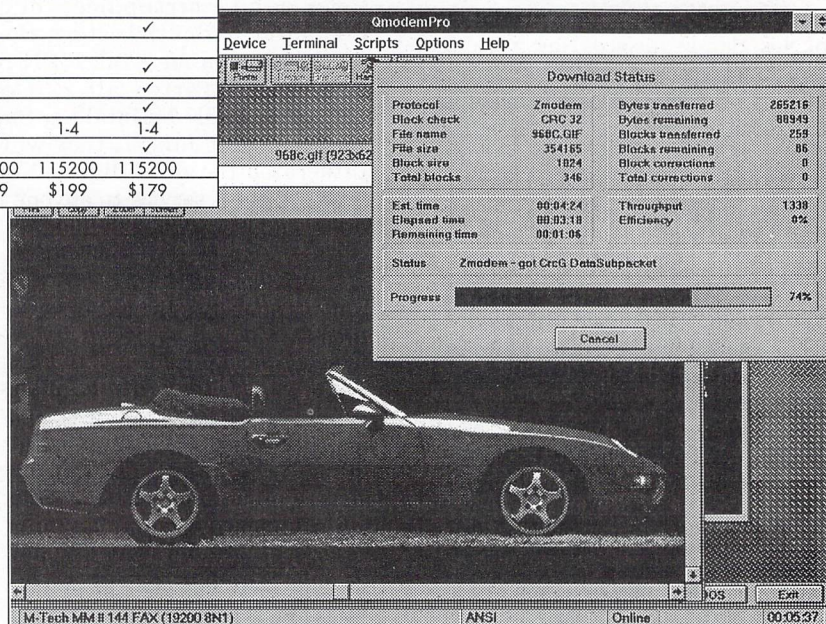
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F O R W I N D O W S

BULLETIN BOARD CENSUS

CITY	MSA	BBS	POP/BBS
Albuquerque	480,577	79	6083:1
Atlanta	2,833,511	312	9082:1
Austin	781,572	439	1780:1
Charlotte	1,162,093	124	9372:1
Denver	1,848,319	694	2663:1
Orlando	1,072,748	203	5284:1
Phoenix	2,122,109	378	5614:1
San Diego	2,498,016	812	3076:1
St. Louis	2,444,099	351	6963:1
Tulsa	708,954	213	3328:1
Total	15,951,998	3605	4425:1

254,000,000 / 4425 = 57,401 BBSs

able BBS lists just don't line up in a very pretty fashion.

Then too there is a size curve. Large metropolitan areas such as Los Angeles, San Francisco, New York, and so on are virtually useless. There are so MANY bulletin boards in such a small area, that no one in their right mind would attempt a comprehensive list - it just isn't feasible to keep track of the comings and goings of a thousand bulletin boards or more in any competent fashion. In such areas, if there is a list keeper at all, they tend to be focused on some subarea, or perhaps just very selective as to who they let on their list. San Francisco, for example, probably sports over a 1000 bulletin boards, but the best list in the area, Bay Area Bulletin Board Advisor, usually sports about 300 good ones.

Small rural areas often have a similar problem. There may be twenty or so bulletin boards, but everybody mostly knows who they are so why keep a list?

Finally, there are lists and there are lists. Some are verified and maintained very conscientiously because that city happens to have some guy or gal with a modem, some time, and the urge and desire to do it and do it well. And some cities just aren't so lucky.

So in looking for sample cities, we are really looking for relatively isolated Metropolitan Statistical Areas - ideally surrounded by nothing but desert, with wide local dialing areas that approximately match the MSA, and somebody who makes a serious attempt at maintaining a comprehensive BBS list. For this survey, we

picked ten cities we think come pretty close.

BBS per population density varies from city to city depending on the demographics of age, income, education, and other factors that vary from city to city. You might not find it surprising that BBS activity is somewhat more intense in cities such as Denver, Austin, and San

Diego compared with areas such as Atlanta, or Charlotte. Austin, for example, is a very high tech college town and birthplace of Dell Computers. Southwestern Bell has selected Austin for a full ISDN rollout and has converted all 22 Central Offices to ISDN by installing Siemens switches. On June 1, they will offer Integrated Services Digital Network (ISDN) 2B+D service to anyone in the town at \$48 per month.

So we also want our list of sample cities to be somewhat diverse with regards to location, size, and density. From the totals above, and assuming a rough population of the United States of some 254 million, we can calculate a total national BBS population of approximately 254 million/4425 or 57,401 bulletin boards with some pretty good assurance.

VIACRYPT OFFERING PGP FOR COMPUSERVE

We've done a number of articles about Phil Zimmerman's Pretty Good Privacy program. It's a powerful e-mail encryption program distributed freely with source code - and a pretty bare interface. Our position on this has always been that encryption is good, Phil's software is pretty good, but it's all a bit too much bother if you're doing a lot of mail.

He entered an agreement with a company titled ViaCrypt to allow ViaCrypt, which has licensed the RSA algorithm, to develop a commercial version of PGP. We saw recently where they are now offering a version for WinCIM and CompuServe Navi-

gator for Windows, CompuServe's mail programs. The company claims it allows you to encrypt your mail with three clicks of your mouse. You can also manage your keyrings with your public keys, exchange keys with other CompuServe users by e-mail, and so forth. This WinCIM version is priced at \$119.98 plus tax and shipping (nothing like a nice round number) which seems a little proud, but interesting. ViaCrypt, 2104 West Peoria Ave., Phoenix, AZ 85029; (602)944-0773 voice; (602)943-2601 fax; Internet: 70304.41@compuserve.com.

ZIFF DAVIS INTERACTIVE AND ZIFF MAGAZINES SPONSOR FIRST ANNUAL SHAREWARE AWARDS

PC Magazine, MacUser, Computer Gaming World and Ziff-Davis Interactive (ZDI), the online publishing division of Ziff-Davis Publishing Company, have announced their sponsorship of the first annual **Ziff-Davis Shareware Awards**, honoring the best shareware written or significantly upgraded between January 1, 1993 and June 1, 1994.

The awards will be given at a ceremony at the **Summer Shareware Seminar (SSS)** at ONE BBSCON in Atlanta on August 19th. The **SSS** is a gathering of hundreds of shareware authors, who meet to learn more about the business of writing, distributing and selling shareware. ONE BBSCON is hosted by ONE, Inc. and is the premier event exclusively serving the online community. It has grown considerably every year held, reflecting the dramatic growth of the online industry. This is the first year SSS will be held in conjunction with ONE BBSCON. The combined event will allow shareware authors and distributors to meet under one roof.

"We are very pleased to be honoring the best shareware authors and their programs," said David Shnaider, vice president of Ziff-Davis Interactive. "As a leading provider of online services, ZDI has long played a role in delivering the highest quality shareware to our users. These awards are an extension of our commitment to the shareware industry."

"Over the years, the shareware industry has provided us with some very important pieces of software,"

said Robin Raskin, editor of *PC Magazine*. "PC Magazine's co-sponsorship of the awards recognizes the depth, breadth and quality of shareware today, as well as the professionalism of the shareware industry."

"Shareware is an important segment in the software industry," said Maggie Canon, editor-in-chief of *MacUser*. "I don't know anybody who doesn't have at least one or two pieces of shareware to round out their software applications."

"As the first computer game magazine to offer regular coverage of shareware games, *Computer Gaming World* is pleased to be a sponsor of the Shareware Awards. Some of the greatest computer games of all time have come out of the shareware community, it's time they received their due," said Russell Sipe, publisher of *Computer Gaming World*.

Each publication will select the best shareware from several categories relating to the publication's editorial mission, and will judge shareware on originality, creativity and usefulness. Shareware submissions may be posted to the **Ziff-Davis Interactive BBS at 1-800-426-3425** (8 lines/2400-28.8 kbps/24 hour access); international callers can access the submissions BBS by calling **(617)252-5510**. The deadline for submitting shareware is **June 1, 1994**. The names of the award winners and their programs will appear in *PC Magazine*, *MacUser* and *Computer Gaming World* and will be posted in the *PC Magazine*, *MacUser* and *Computer Gaming World* libraries on ZiffNet. All entries must be in ZIP or SIT format. Entries must be shareware programs released between January 1, 1993 and June 1, 1994. For questions about alternate submission methods, please call **(617)252-5527**.

Judges for the DOS and Windows awards will include editors from *PC Magazine*, including Robin Raskin, editor, Bill Machrone, Ziff-Davis vice president for technology, and Preston Gralla, software editor of the Interchange Online Service recently announced by ZDI. The judges panel will also draw on the expertise of *PC Magazine's* PC Tech editors and writers. These include Doug Boling, Dale Lewallen, Neil Rubenking, Ed Mendelson, Charles Petzold, Sheryl Canter and Jeff Prosis. Judges for the Macintosh awards will include editors from *MacUser*, including Maggie Canon, editor-in-chief, Jim Bradbury,

editor, and Greg Wasson, contributing editor and chief sypsof of the ZiffNet/Mac Download & Support Forum. Judges from *Computer Gaming World* will include Chuck Miller, shareware columnist, Johnny Wilson, editor-in-chief and Chris Lombardi, editor.

Those interested in registering for the Summer Shareware Seminar at ONE BBSCON may call **303-693-5253**. Those interested in joining ZiffNet may call **1-800-848-8199**.

Formed in 1991, Ziff-Davis Interactive is the online publishing division of Ziff-Davis Publishing Company, the leading publisher of information about computers and computing. ZDI produces ZiffNet, which provides comprehensive information on buying, using, supporting and understanding personal computers. ZiffNet is the most successful special-interest online service in the world, with more than 200,000 subscribers. It is available through CompuServe, PRODIGY and AppleLink, and will be offered through eWorld. ZDI also distributes shareware via Public Brand Software, a disk vendor and publisher of the PBS Shareware catalog.

In January 1994, ZDI announced a new product with the working name of Interchange, that is both a new online information service for professionals and others with a serious interest in computing, and next-generation publishing platform that gives publishers new opportunities to develop and reach markets electronically. The Windows version of Interchange will be commercially available in late 1994, but a large-scale early-release program (ERP) will be in place in mid-1994. Interchange membership will be free of charge during the ERP. Those interested in applying to the ERP may call **1-800-595-8555**. Space may be limited.

SEARCHLIGHT 4.0 OFFERS LOCAL RIP, DIRECT VIDEO SUPPORT

Searchlight Software, Inc. announced release of Version 4.0 of the Searchlight BBS Software available April 25, 1994. Searchlight has developed a following as one of the easiest BBS software programs to install and operate.

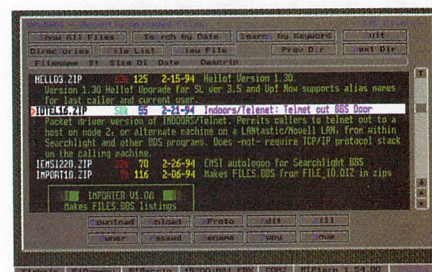


SearchLight 4.0 with RIP Graphics

In the last year, the company has bet heavily on the Remote Imaging Protocol (RIP) standard to provide an easy to use graphical interface. RIP uses ASCII-like text files to transmit iconic images, mouse control actions, and graphics between bulletin boards and callers who use a RIP compatible terminal program such as RIPTerm or Qmodem for Windows. Most BBS software developers have found it reasonably easy to add a basic RIP function to their BBS software since it is little different from transmitting normal ANSI or ASCII text files as menus. But one drawback poorly addressed is that the local BBS operator can't really "see" the RIP screens being transmitted, without logging on to the system from a RIP terminal themselves. This new 4.0 release of Searchlight incorporates RIP to a much greater degree of integration than most of the competing packages.

In doing so, they've also dressed up a couple of common BBS functions to take advantage of the interface, with scrollable message lists allowing callers to mouse about message areas and click on a promising message title to view it. Similarly, this scrollable list function has been extended to file area directories as well.

One of the most frustrating areas for new BBS operators revolves around entering the correct modem initializa-



SearchLight 4.0 Files List Menu

tion string for any of the hundreds of different modems available. Searchlight 4.0 dynamically tests your modem to generate its own initialization string. It also supports caller-ID modems and port speeds up to 115 kbps to accommodate the new V.FC and V.34 modems.

An interesting innovation is their treatment of CD-ROM drives. CD-ROMS have been very popular on bulletin boards due to the ease of adding Gigabytes of files to a system at relatively low cost by adding CD-ROM drives and loading them with shareware software collections on CD-ROM. The problem is that with six CD-ROM drives, for example, and six CD-ROMs in the drives, you can also wind up with six different Word Processing Program file areas. The new Searchlight 4.0 allows you to combine directories from a number of CD-ROM's into a single download file area - providing significantly more flexible design and management of CD-ROM based file areas.

The new version also includes internal support for Internet e-mail addresses. Searchlight does not yet offer a UUCP or SMTP e-mail link, but they have expanded their internal addressing to support Internet addressing in the future. And according to Searchlight President Frank LaRosa, they do expect several third-party product releases by the end of June, 1994, including an Internet/Usenet Gateway, a Novell Message Handling System (MHS) gateway, and a fax send/receive capability. Searchlight intends to release language files for the system by the end of June including French, German and Spanish language support. Prices vary by line count with the single-line package available at \$99 and unlimited line count at \$399. Searchlight Software, Inc., 6516 Detroit Avenue, Cleveland, OH 44102; (216)631-9290 voice; (216)631-9289 fax; (216)631-9285 BBS.

TWO BBSCON PLANS FORMING

Following the success of the Online Networking Exposition and BBS Convention (ONE BBSCON), a group in Europe has proposed a version of the popular trade show a little closer to home. **The World Online BBS Convention (TWO BBSCON)** - a version of this gathering of BBS operators and online enthusiasts it to be

located geographically on the European continent.

According to organizer Gerald Meier of Liechtenstein, **TWO BBSCON** will be held February 8-11, 1995 at the Swissotel, Rheinpark Congress Centrum between Dusseldorf and Neuss in Germany. Those interested in the event may contact Gerald Meier, TWO BBSCON EST., P.O. Box 206, FL 9486 Schaanwald, Liechtenstein /Europe; +41 (75) 373 28 32 voice; +41 (75) 373 30 62 fax; +41 (75) 373 66 80 BBS. Internet: twobbs@osis.li

THE V.FC CHIP SET - AN INTRODUCTION TO THE HEART OF TODAY'S MODEMS

by Alan D. Bryant

You don't have to look very hard to run right into today's state-of-the-art in modem technology: V.FC. Hayes, Microcom, Zoom and many others are touting V.FC technology in their modem advertising, and publications like the Boardwatch you hold in your hands right now are responding to this exciting new level of modem performance.

If you're not excited about V.FC, you're not paying attention. V.FC, or V.FAST Class, is a new modem pre-standard developed by Rockwell International. It offers carrier rates up to 28,800 bps and laboratory tested throughput of up to 230,400 bps. The term pre-standard, coined by Dennis Hayes, is appropriate; these modems do not necessarily embody the technology which will eventually become V.34, a new ITU 28,800 bps carrier standard. However, Rockwell and virtually every modem manufacturer who has embraced V.FC have promised that V.FC-based modems will be upgradable to V.34 when the standard is finalized.

But back to the excitement part of the formula: the math is simple - these modems offer the ability to chuck data down an ordinary phone line at speeds double or more than common V.32bis (14,400 bps carrier rate) modems. Virtually every major modem manufacturer has pledged V.FC support, and many are already delivering it. BBS sysops have snapped up these modems faster than manufacturers can produce them, and end-users too are discovering the exhilaration of sending data

at speeds that just last year seemed impossible.

With the mass introduction of V.FC modems from various modem makers, however, comes a lot of claims and counter-claims about the technology, the chip set at the core of these modems, and the specific features one modem offers that another may not.

First, the technology. Those who claim that V.FC is pushing telecommunications technology to its currently defined limits are correct. While V.FC works (and works great), it is true that you do not always enjoy carrier speeds of 28,800 bps on all connections. The V.FC technology is designed to up-shift and down-shift the carrier rate dynamically during initial modem negotiation and during a connection, to adjust to varying line conditions. You may call your favorite V.FC-capable BBS one time and get a 28,800 connect, and five minutes later get a mere 21,600 fallback carrier rate instead.

The carrier rates you receive are dependent on a variety of criteria. The distance of the call itself has a lot to do with it, as does the relative quality of the telephone carrier's equipment in use during a specific call. Voice calls (which include dial-up modem calls) are handled on a variety of different physical line types as well. All these elements and more result in somewhat unpredictable carrier rates on each given call. The bottom line, however, is that even in the worst cases V.FC modems deliver data rates much higher than the previous high-end standard of 14,440 bps.

There are actually six V.FC speeds total. A 28,800 bps V.FC modem will pick the fastest rate it can support on a given connection automatically, falling back to one of five other rates: 26,400 bps, 24,000 bps, 21,600 bps, 19,200 bps or 16,800 bps. In very poor conditions, it can drop back to a V.32bis connection (14,400 bps) - sometimes even slower. In my own testing, you can pretty much count on at least 21,600 bps (usually faster) on virtually any V.FC connection you place, whether local or long distance. The higher end speeds are in fact more common on a local call than a long distance one, but you will get connections at all the various speeds on any type of call if you dial out regularly enough.

Skeptics who claim V.FC doesn't work or doesn't work well haven't tried it. So far, I've personally spent

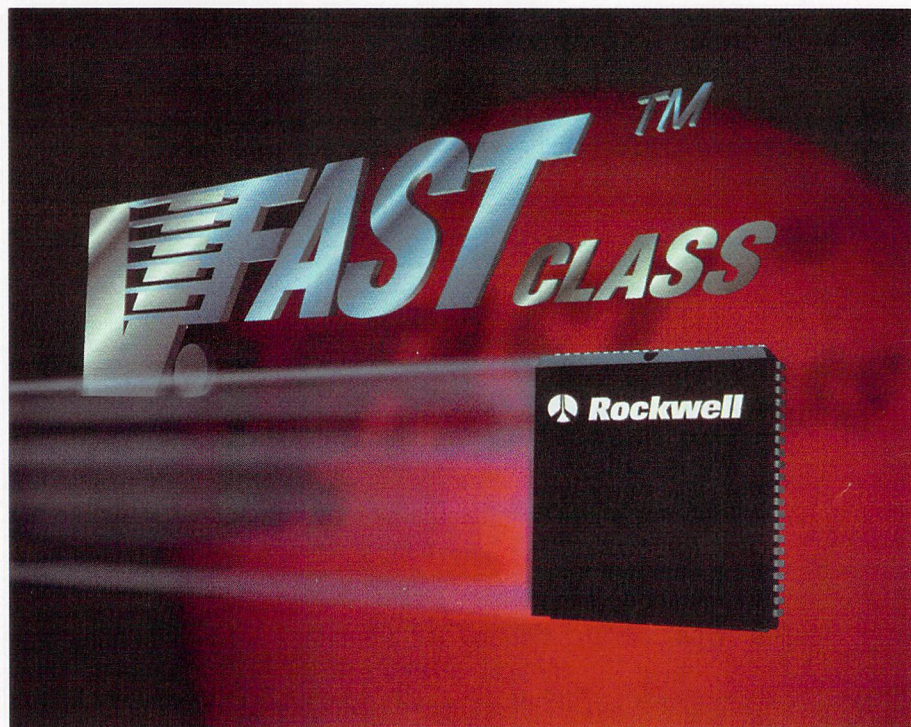
hundreds of hours calling V.FC to V.FC, and I can attest to the speed gains being positively intoxicating. V.FC modems began appearing in late 1993, so specific models that have V.FC support are new. As with most new modem models there are often firmware kinks that a modem maker has to work out before their modems work reliably. I have found some situations where a particular V.FC modem is quirky or goes dead from time to time, but these are manifestations of the modem maker's own software work, and are not indications that V.FC itself is flawed.

At the heart of every V.FC modem is Rockwell's own V.FC chip set, called the RCxACi/VFC chip family. The chip set and its underlying technology were developed by Rockwell, but Hayes is rumored to have been very directly involved in many aspects of the project. There is plenty of empirical evidence to support Hayes' involvement: AutoSync, a Hayes technology, is optional or standard in V.FC (depending the specific chip set used). Hayes' unique mapping of specific S registers, such as S36, is also what is used in Rockwell's own V.FC firmware. Higher numbered S registers normally have considerable differences from Hayes' own modems - but not here.

Also peculiar is evidence of Microcom's involvement in V.FC. Their modems were the first models to offer a parallel port DTE interface, a feature engineered into the chip set. Microcom's MNP10, a rarity in most non-Microcom modems, is standard in most chip set configurations. Whoever was involved in the project, V.FC incorporates a very attractive array of features.

The V.FC chip set itself is offered in three speed classes, with five versions of each speed class. There are also two implementation methodologies that can be applied, resulting in an overall chip family with 30 variations. When you buy a V.FC modem, you'll know the speed class, but you won't necessarily know anything beyond that about your modem without a fair amount of investigation.

There are three speed classes for V.FC: 28,800 bps, 24,000 bps, and 19,200 bps. Virtually every modem manufacturer has selected the 28,800 chip sets because the price differential between it and the slower speeds is minimal for the higher performance offered. These speed classes in effect



set the highest carrier rate that the modem will offer the end-user. When selecting a V.FC modem, my advice is pick a 28,800 bps model (if you even have a choice). The slower versions are false economy.

Within each speed class, there are five versions a modem manufacturer can choose from:

- An unadulterated, basic version called the D (for "data only") model.
- A standard version that is the basic with added fax capabilities.
- The A model with fax, MNP10 support, and optional Hayes' AutoSync support.
- The W-D model, with "world class" support (more on that later), MNP10, but data only (no fax). Hayes AutoSync is standard in this configuration.
- The W-E model, with "world class" support, MNP10, Hayes AutoSync, and industrial temperature range tolerance for specialized applications.

The final choice a modem manufacturer can make in implementing V.FC is whether to go the low-cost (two chip) or high-performance (three chip) route. A third option is to use just one piece of the chip set (the data pump) and engineer the rest of the modem on their own.

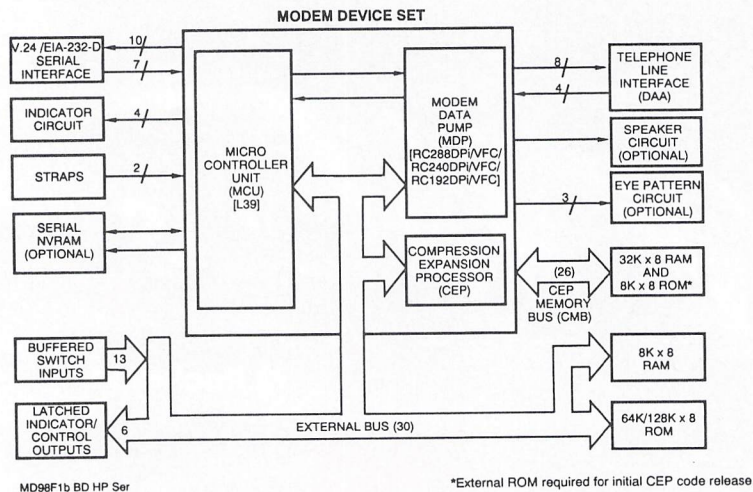
The chip set itself is implemented in up to three parts: an L39 microcontroller (MCU), a data pump (MDP), and an optional compression expansion co-processor (CEP). The low-cost two chip set consists of the MCU and MDP only; the higher performance implementation uses those two plus the optional CEP. In modems that use only the data pump (MDP), the MCU is replaced by the modem maker's own choice of microprocessor.

The MDP, a Rockwell RCxDPI/VFC, is the heart of the chip set itself and all V.FC modems. Integrated into a 68-pin chip, it implements the data carrier rate support the chip set offers as a data modem, and in fax configurations, offers Group 3 fax support at up to 14,400 bps. As such, it is this single chip that makes a modem V.FC capable.

The MCU is a Rockwell L39 chip, packaged in an 84-pin chip. It performs command processing and host interface functions for the overall chip set. The MCU offers support for V.24 (RS-232) serial interfaces, as well as a parallel microcomputer bus.

The MCU connects to the MDP, as well as to modem manufacturer supplied ROM (up to 128k bytes) and RAM (up to 32k bytes) components, and to the optional CEP for high performance applications.

In the low cost configuration, the MCU and MDP are used. The MCU



a. Serial Interface Selected

V.FC Integrated Data/Fax Modem Device Set Block Diagram

runs at 14.7 MHz, with external memory of 64k or 128k of ROM (depending on configuration), and 32k or RAM.

In the high performance configuration, the MCU and MDP are joined by the CEP. This configuration allows the MCU to be operated at lower speeds (since the CEP takes over some operational tasks) - 12.9 MHz. External memory is 64k or 128k of ROM (depending on configuration), and RAM requirements are reduced to 8k.

The CEP, packaged in an 84-pin chip, performs dedicated data compression and expansion functions in V.42bis/MNP5 modes to provide maximum bidirectional throughput for high performance operation. It requires 32k of RAM, 8k of ROM, and operates at 12.9 MHz. The CEP is the "secret" of some of V.FC modems. When used, net throughput on a connection with data compression enabled can be significantly increased versus a V.FC modem without the CEP. (It's useful to note, however, that with or without the CEP chip a V.FC modem is of course very fast.)

As mentioned earlier, some modem makers use only the MDP portion of the chip set. Hayes' Optima 288 and Microcom's DeskPorte FAST are two such models. Hayes chose to use a Motorola 68302 microprocessor to drive their unit, and Microcom a Zilog Z80 family microprocessor. The additional complexity involved with engineering a modem around the V.FC

data pump (MDP) chip alone means you won't likely find too many models, especially from smaller modem makers, that take this approach.

Firmware is a critical element of any modem. In V.FC modems, there is one firmware set for the MCU (or whatever other microprocessor the modem maker chooses) and another when the CEP is employed.

The MCU firmware (as offered by Rockwell) performs general modem control, command sets, error correction, MNP10, class 1 and class 2 faxmodem function, and DTE interface. The MCU firmware is provided by Rockwell in object form for direct integration into a ROM by the modem maker. The firmware can also be provided in source form, allowing a modem vendor to augment or change the firmware. (The least expensive route, taken by some modem makers, is to use the pre-tested, established firmware as-is.)

The firmware can also be changed inexpensively by a modem maker using Rockwell's ConfigurACE technology. It allows a manufacturer to make basic changes to firmware (such as minimum and maximum S-register values, etc.) without obtaining a source code license.

The CEP, when used, needs its own firmware. Like the MCU's firmware, it can be used as-is in object form by a modem maker, or can be obtained in source form when changes are desired.

The V.FC chip set, in all its various implementations, supports all common modem carrier rates (in addition to V.FC rates) clear down to 300 bps. As supplied by Rockwell, V.42, V.42bis, MNP classes 2 through 5 as well as class 10 are also supported for error correction, data compression, and performance enhancement. Faxmodem send and receive rates up to 14,400 bps are optionally supported. Of course, a modem maker is free to change the feature set of the models they produce.

The chip set also supports a low power "sleep" mode. With it, lack of modem activity allows the chip set to shut itself down until ring is detected or a command is sent to the modem. This can be S-register controlled by a user. Coupled with 5 volt operation, specialized low power V.FC applications are definitely possible.

One of the most interesting aspects of the V.FC chip set is that it inherently offers Caller ID support - it's built into the chip set itself. Unless a modem maker actively disables the Caller ID support in firmware (or custom engineers their unit around the MDP chip alone, as mentioned earlier) it is functional and available. Yet, many V.FC modems don't say anything at all about Caller ID support. This rather curious omission on the part of some modem makers doesn't make much marketing sense, given the "hot" interest in Caller ID these days. If your V.FC modem doesn't document Caller ID support, try issuing an **AT#CID?** command. If the modem doesn't issue an error, do an **AT#CID=1** to enable Caller ID; **AT#CID=0** to disable it.

Once enabled, the Caller ID information will be sent to the DTE (i.e., your terminal software, if loaded) when an incoming call comes in. Sent between the first and second RING responses from the modem, the output of a standard Caller ID message looks like this:

```
RING
DATE = 0723
TIME = 1327
NMBR = 3035558288
NAME = ALAN BRYANT
RING
RING
```

This information can be captured and used by a growing number of Caller ID aware terminal and BBS software packages.

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With the availability of pre-tested Rockwell-produced firmware, the V.FC chip set brings modem manufacturers a whole new level of ease of integration. Coupled with the relatively low cost of the chip set itself in quantity, it's no mystery that V.FC modems are falling out of the woodwork at a remarkable pace. Prices as low as \$149 on a V.FC modems are already available, and you can expect prices to fall even further for basic V.FC modems in the coming months. Before long, having anything less than a V.FC simply won't make sense.

[Editor's note: Alan D. Bryant is a contributor to Boardwatch, and author of the new book Creating Successful Bulletin Board Systems, published by Addison-Wesley, ISBN 0-201-62668-3]

MULTILINE BULLETIN BOARD SYSTEMS AND A TRIP TO THE LAND OF THE GALACTINOIDS

by Jack Rickard

It's a strange tale of how things happen in BBSland. And more to the point, it's an eye-opener as to how different the scenery looks depending on where you stand. I made an offhand, but actually quite accurate comment in our LETTERS section some months ago that has set off quite a series of events at both Boardwatch and Galacticom. And in the process of the debate over how many lines can be run on a PC, we've found a whole world of confusion about multiline BBSs quite beyond our bit-level debate and extending pretty far and wide in the world of online services.

So, perhaps its time to discuss what is possible in running a BBS from the PC platform, what isn't, and what the future holds. In the process of all of this I've found an enormous amount of misinformation abounding in a number of online discussion areas and newsgroups - one man proved mathematically without doubt, at least to his own satisfaction, quite publicly that you could not run more than a half dozen lines from a PC platform no matter what you did. The variety of levels of knowledge and confusion on this subject range rather widely, so we'll probably have to start at a pretty basic level. The article will almost certainly cause a lot of mail correcting my errant knowledge, most heavily

from those who know the least on the topic. But it will be fun.

WHAT IS MULTILINE SERVICE?

The definition of a BBS varies widely even among BBS enthusiasts. In 1978 Ward Christensen wrote a computer program that used a telephone line, a modem, and a computer. It allowed people to dial in using their modem and post PUBLIC electronic messages that other callers could read. THEY in turn could also post messages. He called it a Computer Bulletin Board System (CBBS) after the cork bulletin board model at a local Chicago computer club. It was intended as an electronic analogy of that cork bulletin board that anyone with a modem could use whether they made it through the snow to an actual meeting or not.

A bit of a purist at heart, I still consider ANYTHING that allows you to post an electronic mail message that MULTIPLE callers can publicly read and respond to as a BBS. Files, chat service, graphics, network mail, Internet connectivity - we love it all, but it isn't what makes a BBS a BBS. A BBS is PUBLIC discussion by electronic mail.

If this happened by telepathy, television, cable, Internet, or wishful thinking, it would still be a BBS. Historically, the minimalist requirements to accomplish a BBS have been a computer to run the software (anything from a KIM-1 kit on up qualifies), a modem, the BBS operating software, and a telephone line. If you assemble all this correctly, you have a BBS.

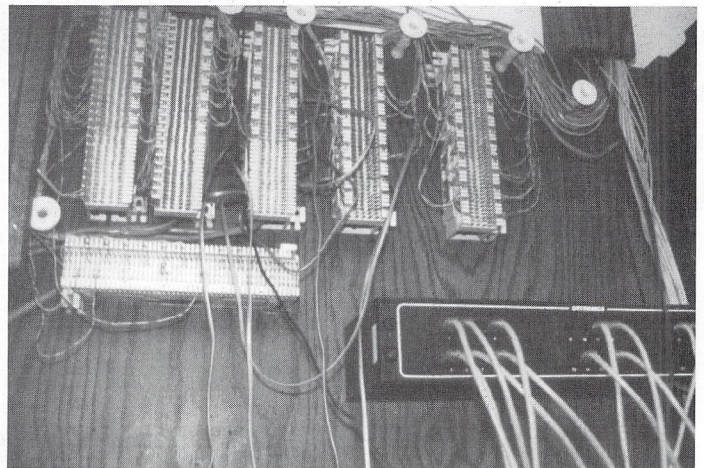
If you have more than two callers, and they happen to call at the same time, you have 50% of your caller base getting a busy signal. And that has set off a technological chase at the grass roots level that has been going on for probably 15 years at least mentally, and 10 years in a very real sense.

The basic math is pretty simple, but it leads to some perplexing problems. If you want two people to be on your BBS at the same time, you must have two modems, and two telephone lines. To handle three callers, you need three modems and three telephone lines.

TELEPHONE LINE SERVICE

The actual telephone lines usually operate in what is variously known as a "hunt group," a "rotary line series," or even more recently as "forward on busy." Most commonly, you order telephone lines installed by the telephone company. Each line has its own telephone number, but typically you publish just the FIRST telephone number. If that line is currently occupied, the software at the telephone company central office (CO) switch automatically forwards the call to the NEXT line in your hunt group series. This "hunting" continues down your entire series of x telephone lines until it either finds one free and makes the connection, or runs out of lines, in which case the CO issues a busy signal to the caller. Note that the order of connection never changes. If line 3 of your 7 line group suddenly becomes free, the next call will take that line. The ring sequence is from the top of your hunt group series to the bottom.

There are a few tricks in BBS land that take advantage of this. Let's assume you have a six line series but you have only THREE of the new 28.8kbps modems and three older 14.4kbps modems. You could put the 28.8kbps modems on the LAST three lines and publish TWO numbers. The number of the FIRST line in your series would be the 14.4kbps access



Punch-down block and RJ-11 Connector Panel

line. The FOURTH line in your series would be your 28.8 kbps line. Callers dialing the 28.8kbps published number can ONLY get one of two results, a 28.8kbps connect, or a busy signal. Callers dialing the 14.4kbps line, presumably because that's the fastest modem they have, would have a choice of all six lines, because the 28.8 kbps modems can handle 14.4kbps calls quite nicely. This is usually referred to by operators as a "split" hunt group. Actually the hunt group isn't changed at all, but the usage of modems and published numbers gives it that effect.

A couple of other items come up with BBS telephone service. By far the lion's share of calls to a BBS are INBOUND. A bulletin board makes relatively few outbound calls, usually to share mail with an Internet host or Fidonet link or some other shared mail function, and some don't make any at all. Some telephone companys offer INBOUND ONLY lines at an incredible discount on the monthly line charge. Others offer TOTALLY MEASURED SERVICE lines where even local calls you dial are metered, but you don't dial locally or otherwise very much so it doesn't matter. Again, totally measured service lines are usually at a discount of as much as 50% over standard business lines.

We do hear occasionally from those wondering just what the physical connection to six lines or ten lines or twenty lines looks like. Most all modems sport an RJ-11 modular connector and the easiest way to connect one is to a similar RJ-11 connector somewhere. But on large line count systems, the telephone company can and will at your request terminate the wiring in a punch-down block. This is simply a bare terminal block hung on the wall looking a bit like a pin-cushion. It is called a punch-down block because there is a little tool that lets you "punch down" the fine telephone wire into a little split-spade like terminal. You then run wires from the terminals to a standard connector, and often a large BBS will buy a panel sold by Black Box and others that simply lets you mount row upon row of modular RJ-11 connectors.

ESTIMATING THE NUMBER OF LINES YOU NEED

THE most common mistake made by novice sysops is always, always to overestimate the number of lines needed. With a good idea and an aggressive move to put it in play, you

can make a successful online service today. But if it's successful at four lines, it can be grown to six or eight as needed. And as Rusty Hardinburg said at ONE BBSCON '92, if it's gonna fail, it can fail just as easily on one line as a hundred. This is one industry where almost anything can be scaled up, and nothing can be scaled down. We've already seen a couple of services invest \$200,000 or so, garner 1000 paying subscribers, and fold in disgust. Building from a single line up on a pay as you go basis, and without having to recoup the \$200,000, that same 1000 paying subscribers would look like the golden city of Jerusalem to the BBS operator that got there the hard way. And we've seen several 4 line bulletin boards do 50,000 calls their first year.

I've seen several formulas posited for estimating line counts. They look to me like they basically move the unanswerable question out of the basic question and into the formula variables. Most go something like this:

AVERAGE MINUTES PER CALLER * NUMBER OF CALLERS/SYSTEM AVAILABILITY = LINES

If you know the average number of minutes your caller will be online, the number of callers that call each day, and the time period during which they will want to call, you can calculate the number of lines you'll need. Well, here's a news flash. You're not going to know ANY of that. The reason they call these variables is that they vary.

How long is the average call to a BBS? Special topic systems often receive brief calls from their followers who want to find out what's new, maybe swap some mail, and get off. Average 12 minutes is common on some such systems and 20 minutes on others. File libraries tend to run more like 40 minutes to as much as an hour on average. Chat systems? Some callers dialed in in 1989 and never have logged off. How many callers will you have? All of them you of course hope. And system availability? Who knows. We used to see people dial on their lunch hour. Now they dial from work during working hours and LEAVE for their lunch hour. Board-watch gets most of its traffic in the wee hours of the morning when several hundred other BBS sysops call to pick up USATODAY for their systems. The night time crew also comes in in the evening. After you have run a system for five years, you will know all the variables. By then you don't need the formula. The sysops I've watched can

look at the lines in their peak daily period, watch how they fill up, how they stay filled, and know pretty much when to order more almost by feel.

The rule of thumb we toss out is simpler, and probably as effective. A single line BBS can handle 35 calls per day. An active caller dials twice weekly on average. An eight line system will handle 280 calls daily or a universe of about 1000 reasonably active callers. And it's tough to get that first 1000 regular callers.

Chat systems are an entirely separate ball of wax. First, you don't have a critical mass of "chatters" until you have twelve lines and 16 lines is even better to start. Once they fill, add a few each month more or less forever or until you reach the limits of your software.

TWO MODES OF MULTILINE SERVICE

B ut telephone service has not been where the difficulty lies. Once you have telephone lines, and modems connected to them, what do you connect the modems to? The common connection is of course a serial cable between the modems and a computer. In the case of PCs this is an RS-232 serial cable.

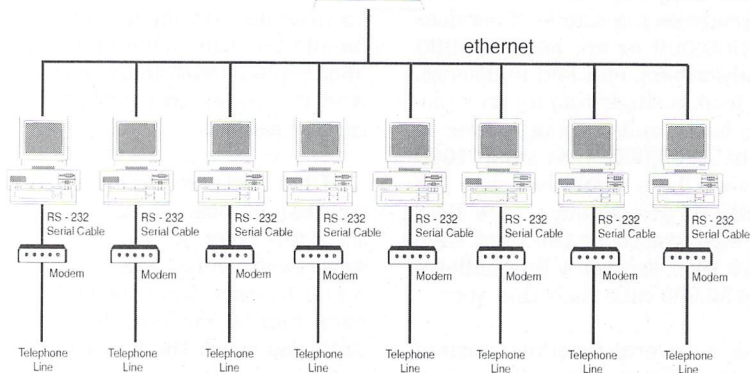
The original IBM PC supported two serial ports - each with their own hardware interrupt or IRQ. We've never really quite gotten past this short-sighted bit of design work. A commonly adopted convention expanded this later to four ports with each IRQ shared between two ports. And from there, a number of specialized multiport adapters have been developed extending the number of serial ports to larger numbers, but to no particular standard.

In the world of bulletin boards, two models emerged to handle multiple telephone lines. We refer to one as multinode and the second as multiline although the terms are admittedly arbitrary.

The "multinode" model consists of a single PC running a BBS program and servicing a single modem and telephone line. But using a Local Area Network, you can wire a dozen or a hundred PCs together using ethernet cable. If they all have access to the same message database, and they all have access to the same user database, and they all have access to the same

MULTINODE

LAN FILE SERVER



file areas, they will look and act to the caller like one single BBS. It will recognize their logon, give them their mail, and allow them to access the same services from any of the LAN "nodes." MOST of the BBS programs available today will support multiple telephone lines using this model.

And it offers some distinct advantages. If you are using a LAN anyway for your office or business, it makes sense to have the BBS on it and available for logon from any LAN workstation. Mail can often be shared between the BBS and the LAN mail system. You can even dial into the BBS and drop to the DOS command line using a doorway function and in many cases do LAN-like things remotely. You can take any machine on the LAN down for service without taking your entire BBS out of service. Probably most important, the BBS program can actually shell out and allow the caller to run other DOS programs, in fact almost ANY DOS program that can be redirected through the serial ports. It is the most flexible model.

But in larger line counts, the multinode BBS also offers some serious dis-economies of scale. A 60 line BBS means 60 personal computers, with 60 ethernet cards. The hardware costs are extensive, and the maintenance becomes surreal as the task of keeping 60 computers in operation increases the odds that you've got something broken somewhere all the time. They generate a LOT of heat, and eat a LOT of electricity. And there is rarely a good way to arrange all of them where

you can REACH a problem PC physically, without moving seven others. The incremental cost of adding lines is restrictive. And despite the claim that some part of the BBS will always be up, we've found most BBS software that uses this model is LESS stable than that operating on a single PC. This is probably not so much inherent as actual and historical. Some examples of multinode BBS software include PCBoard, Wildcat!, Searchlight, Remote Access, RBBS, RoboBoardFX, and many others.

The multiline model, by contrast, uses a SINGLE PC to service multiple telephone lines. This is done by extending the number of serial ports "ganged" to the PC. The highest number we have ever heard of attempted was 256 ports in a demo system constructed by Galacticom using their Major BBS software. It

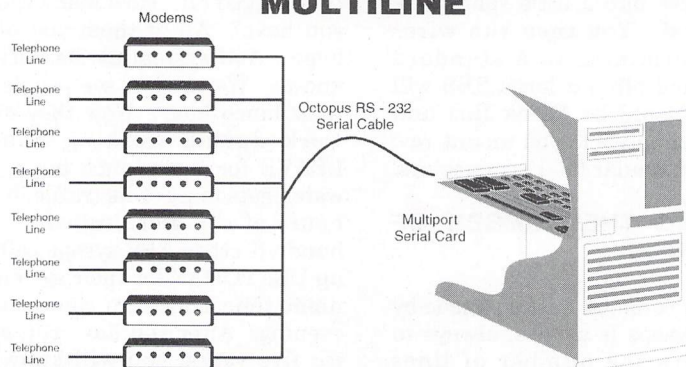
didn't precisely work to what we would normally expect from a BBS, but they were all connected and could theoretically take calls at low speeds.

The hardware required to run a multiline system tends to be less expensive because there is less of it, but higher horsepower. 486-50MHz PCs have been traditional over the past year or so with 8 or 16 MB of RAM, and Pentium PCs, particularly the Gateway P5-60 have been frenetically popular recently. Multiport serial cards by DigiBoard, GTEK, Boca Research, and Galacticom have been commonly used to extend the number of serial ports. These cards typically come in 4, 8, 16, and even 32 port configurations and can usually be daisy chained together. Four 16-port serial cards on one machine is easy to accomplish for 64 lines. Typically, the card features a largish 100-pin connector available from the back of the computer. Some sort of cable breakout, usually termed an octopus, connects to this and terminates at the other end in 16 separate RS-232 connectors, or sometimes a patchpanel with the required connectors to plug modems into.

Galacticom somewhat uniquely offers an entire PC chassis that is essentially a bus extension allowing you to plug up to 16 internal modem cards into each chassis. The chassis is then plugged into the PC. The 256 line demo system constructed by Galacticom essentially consisted of one of these boxes with two eight-port cards. Each of these 16 serial ports in turn mastered an entire 16-slot Galactibox.

Examples of multiline software include TBBS, Major BBS, DLX, Oracomm, Synchronet, and Falken.

MULTILINE



WHY GENERALIZED OPERATING SYSTEMS DON'T DO WELL

The obvious question is why not simply combine the two models and gain the best of both worlds. It seems to be an ongoing quest for the holy grail online as to just how to do that. The continuing temptation is to use a generalized multitasking operating system to do it. And it works well enough to lead a lot of BBS operators to long months of grief dealing with it. It IS possible to LAN a few boxes together that each appear to run 8 to 16 lines from each box. Nirvana. We be there.

I will make the following statement just to watch my e-mail inbox swell with indignation and rage. But you paid the \$36, so you get the real stuff. Along with the best of both worlds, you also get the worst. The resulting mess is terrifyingly complex, unstable, performs poorly, and causes ongoing nightmares, emotional problems, and ultimately suicide or mental incapacity of the BBS operator. It is POSSIBLE that this scenario will be altered in the future, and it's worth the effort to try as long as it is somebody else and not me. First a couple of general items, and then some specifics.

Generalized multitasking operating systems have difficulty with large line counts for two reasons. First is the overhead of the operating system itself. They tend to be large, powerful, and quite flexible. When running a PC as a BBS, actually we only want it to do a very few things - access some files and databases from the hard disk drive, and squirt data bi-directionally through the port just as hard as it possibly can. We don't need to check to see if the printer driver is loaded, whether that command has any of the following 650 option switches trailing after it, or even if it is one of the 350 commands supported, before we do our work. We read/write disk, we squirt and get squirted through the serial port. Once every calendar or so we put something up on the screen so the sysop knows we're working hard. So about 80% of what a generalized operating system does, we don't have to do, and there is no way a generalized operating system can do all that and still be an efficient BBS.

The second difficulty has to do with HOW they multitask. Each "user" gets a particular area of memory, typically enough to BE a whole machine,

and we time share between them. To do this time sharing, we have to "switch" from one task to another. And there is a certain amount of overhead involved in the switch itself - never mind the work we are doing in each user's segment, just to switch between them requires some work of the CPU. There is a distinct ratio of switch overhead to useful work, and as the number of users increases, the ratio between overhead and work done for each user increases. At some point, we are "thrashing" from one user to another and doing little work in any of them - ever.

Let's look at some specifics:

DESQVIEW

Quarterdeck Office Systems DESQview product has been the darling of the BBS industry virtually since it was launched. It is a DOS based multitasker, and actually it is as good as it gets for what it is. You can run four high-speed telephone lines from a single high horsepower PC and four copies of most BBS software under DESQview. You could five years ago, and you can today. It runs them well enough, that BBS operators try endlessly to get it to do five lines. It won't do five lines. It wouldn't do them five years ago, and you can't today. There are bulletin boards with more than four lines configured, and on an experimental basis, they're fun to play with. Production bulletin board systems never run more than four.

The reasons for this are only barely technical. DESQView will respond to interrupts and do the switch, but the overhead of switching from one task to another is somewhat high, and on larger line counts you wind up in "IRQ switching thrash" that ultimately makes the system unstable. It demonstrably will run but not for very long without constant attention. On an approximate two year cycle, the horsepower of the PC hardware noses ahead just enough that it appears you can do infinite lines under DESQView successfully. About four to six months later, the modem speeds come up as well, and we're back to four lines. The ratio of modem speeds to PC performance has held more or less solid in this respect since Napoleon Bonaparte was counting cannon on his fingers. If you want to use DESQView to run more than four lines from a single PC, you are limited to supporting last year's modem speeds or earlier.

WINDOWS

I really don't know who spread the joke of Windows as a BBS platform first. But a couple of kids with compilers took it seriously and it's causing a lot of confusion. With GOOD terminal software, and a GOOD replacement for the comm driver that comes with Windows (TURBOCOMM isn't bad), AND a 16550 UART, you can now just about download files yourself in the background and make it all work more or less on a single line as a CALLER without leaving bits and pieces of broken glass strewn across your desktop. I don't advise using Windows 3.1 as a BBS platform for ONE line. I suppose in theory you could tune it up, again using Windows designed software, to do two communications things at once, fax something in one direction and chat at 2400 bps on a BBS in another, but again as a caller, not as a BBS.

There are two BBS packages that I'm aware of that purport to operate under Windows. The most interesting is a product titled EXCALIBUR. It is interesting mostly in that it does an impressive job with the interface - very graphical and easy to use. We've dialed the home BBS of the author on several occasions and after a few minutes, and before we did anything useful, it dropped carrier. It is in what they refer to as a "pre-beta" release and so in fairness, we just have to wait and see. It might be interesting to run it as a single line system. If it can do two lines, it will be a miracle.

The other is a package titled POWERBBS by Russell Frye. Russell is just this spring graduating from college. He blatantly advertises POWERBBS as capable of 9 lines under Windows 3.1. We tried it under 3.1 with Turbocomm on a Gateway Pentium P5-60 and it almost did one line. Actually it ate itself during configuration. When we did get it up on two lines, with caller downloading at 28.8 kbps, it ate itself again. I spoke with Russell about the 9 line claim. He runs TWO lines on his support board and I've been unable to catch two people on the service at the same time downloading, but he doesn't have any of the 28.8 kbps modems anyway. I wanted to know how he tested 9 lines. He acknowledged that he never had, but using a Digiboard, he didn't see any reason why it wouldn't work and so he thought he would proclaim to the world that it did.

Chicago and Windows NT hold a lot of promise. They're not really here yet in a testable form so it's an easy promise to make. We'll see.

UNIX

There ought to be a book on UNIX. There probably is, but it's unreadable by humanoids if it is true to the genre. There ought to be one that captures the romance and history of this operating system. It is remarkable. It lives for two reasons. Hardware manufacturers with the latest new non-standard idea of how hardware should be built can port UNIX to their system over the weekend and gain a largish base of application software by Monday when they promised the demo. Secondly, DOD funded the addition of TCP/IP to the Berkeley Standard Distribution of UNIX a number of years ago and the for all intents free operating system was a communications demon that could connect to all the VAX systems out there on the Internet. So it caught on at University and compsci students have been playing with it ever since. It is enormously powerful and has an entire mindset that on its own terms functions beautifully. For example, they eschew "monolithic" e-mail systems in favor of e-mail as ordinary files that can be piped, printed, used as input, used as output, and otherwise mangled in an enormous variety of very flexible ways - once you master the syntax. At last count, there were over 35 people on planet who had, but a lot of disciples are still studying it.

It is multiuser and multitasking, but designed to connect terminals to it and RUN the BIG computer. You can compile programs on it, type things, enter commands, and so forth. Note that all the action resides ON the host computer, and the terminal is an input device. The BBS world is very different. Callers call on all lines and suck files as hard and fast as they can, at the highest available speed, in an never ending quest to download the ultimate DOS Shell, Windows Icon editor, and disgusting GIF image of a fat chick with a donkey all at the same time. Culture clash at the serial port is the problem here. UNIX has enormous overhead to allow all that flexibility, and it can't do serial ports well at all. It does a lot of things well, but handling massive downloads isn't any of them. About a dozen lines on a hot PC and it's done. The WELL, last time I was in Sausalito, ran on an 8-processor Sequent minicomputer

under a UNIX variant - to service 54 lines barely and to the ongoing complaints of all callers - who downloaded almost nothing in favor of reading and writing messages in the various message areas. You can probably operate up to about 32 lines "in UNIX fashion" on a Pentium more or less. But running some sort of BBS file software on it isn't going to happen. It is also complex to operate as a sysop. It's currently gaining popularity as an Internet companion to bulletin board systems. And there are a couple of good packages available including TEAMate and Z/Max.

OS/2

IBM's OS/2 comes the closest to performing BBS chores on a generalized operating system. We have seen a dozen lines in operation from a hot PC with OS/2. It provided a download rate in the 1200-1300 cps range using 14.4kbps modems capable of a maximum rate of about 1710 cps or about a 76% efficiency - underwhelming frankly. It is quite LANable, and TCP/IP is available for it as well. With a native 32-bit application designed for it, and we haven't found any BBS with this qualification, it might be interesting if not competitive. It looks a little complicated, and it really won't work with the supplied comm driver at all. Ray Gwinn, author of the X00 fossil, has written one for OS/2 titled SIO. It helps.

DOS MULTILINE BULLETIN BOARDS AND WHY THEY WORK

Multiline BBSs that run under DOS CAN do largish line counts. The two powerhouses in this area are Galacticcomm's MAJOR BBS and eSoft's TBBS. We refer to these as DOS application programs. In practice they are trimmed down operating systems in their own right that use DOS file services and a few other functions to look like DOS applications.

Both are multitasking, but with a bit of a difference. They each use interrupts. TBBS uses standard communication port interrupts and Galacticcomm actually uses clock tick interrupts. But each can service more than one line per interrupt. In their internal heirarchy of what's important and what isn't, comm ports are, and in fact, all else a BBS does happens dead last. On a single clock interrupt, Major BBS can check ALL of the ports for

activity, service them all until they are no longer critical, and then return to running the BBS. We suspect TBBS operates similarly only on comm port interrupts. When an IRQ occurs, TBBS can check a serial port status register to determine which port caused the IRQ. Actually, with this one grab, it knows ALL of the ports that are calling for service on that IRQ - each port is represented by a single bit in status register elements only available by byte. We would find it odd for it to return without also servicing all that it knew about.

What this means is that these multiline operating systems are designed around serial port servicing, and what the BBS does is based on a heirarchy of priority with that at the top, and various other functions rated below that based on how urgent they could possibly be. Database searches might have to wait a bit in their grinding search for the truth. But serial ports are king. And all of these multiline systems have profited handsomely by the advancing horsepower of the hardware, even in the face of increasing modem speeds.

Compare this with generalized operating systems where each user gets a certain time slice no matter what they are doing, and where the operating system mindlessly goes through the task switching overhead without regard for who needs what or with only a basic sense of what is important and what is not - with local screen updates and keyboard service being the top of the heap.

THE JACK RICKARD CHALLENGE

Last summer, in response to a letter to the editor, I cast public aspersions on the Galacticcomm claim that they could do 256 lines on a single PC. Actually, I questioned that they could effectively service 64 lines with 14.4 kbps modems with all lines downloading simultaneously.

Scott Brinker and the Galactinoids took umbrage at this and devised a persuasive test by connecting a couple of PC's running special test software to one of their systems setup with 64 lines. The test software basically selects random files from a file directory and downloads them using the ZMODEM file transfer protocol. It doesn't do anything with the data. In fact, the files aren't even saved to disk, it just downloads them through the

serial port and measures the data rate. It's actually quite interesting to watch.

They connected to the test rigs to the demo BBS using a maze of null-modem serial cables they termed an MegaPus (Mega - from the Latin for Big - close enough to 64 for government work - and Pus - normally a vernacular reference to "in your face"). Their mission was to bring this pile of rubble to ONE BBSCON, label it The Jack Rickard Challenge, and demand that I eat crow in public and apologetic fashion.

They did run into a little difficulty. It was the first time they had performed this type of "file sucking" test and in fairness, most of the Major BBS installations were centered around either businesses that put up a few information files, or chat systems, dependent largely on the level of stress the average slightly inebriated 39 year old male caller could apply by misspelling dirty words as fast as he could from the keyboard. But in short, they found out in the brutal white light of the test lab that what I had said was true. Major BBS could do about 70,000 cps aggregate through the serial port - theoretically 41 lines at 1710 cps per port or 100%. The Jack Rickard Challenge was scrapped for the purposes of the 1993 ONE BBSCON and they were in design city for the next six months.

In the process of debating this with them, it has become evident that while we tilted among ourselves at whether or not they do 32 lines, 48 lines, or 64 lines at 100% efficiency, or 90% or 80%, or whatever, there are a lot of people that believe you can't do any more lines on a PC than they've seen run using POWERBBS under Windows 3.1. With the confusion over DESQview, OS/2, Windows, UNIX, etc., wild claims everywhere bathed in disappointment, there aren't but a handful of people that know what is REAL anymore. The entire industry was in a bath of unsubstantiated claims so out of control, callers to Boardwatch were expressing increasingly cynical views of any vendor claims.

So we found ourselves with a common mission. I needed test data to document what WAS actually possible and where failure points actually did exist. And Galacticomm was investing heavily in upping their performance, and felt someone should witness it.



Scott Brinker, President of Galacticomm, Inc. (left) and Bob Stein, Head of Product Development with the Jack Rickard Challenge/MegaPus

During the first week of April I made the trip to Fort Lauderdale to take the tour and tonic in the balmy breezes of Florida. Since our entire air transportation system now resembles nothing so much as a federal penitentiary, I've just about reached the point where I won't go anywhere anymore if I can't see it first from the rear deck of my house. On hazy days this pretty severely restricts my travel, which is little inconvenience as there isn't normally anywhere I want to go too badly. And it was a long flight to Florida with the once accommodating stewardesses now pretty much in prison guard mode, garb and voice, the airlines having founded an entirely new school of geometry based on maximum human carcass per volume in the cigar tube world of airline interiors, and the now shrilly frenzied - nearly panicked hysteria concerning the smoking of cigarettes (what next-politically correct motor oil?), the trip served admirably not only in the ongoing march of technology, but also in reminding me why I moved to the Rocky Mountains in the first place.

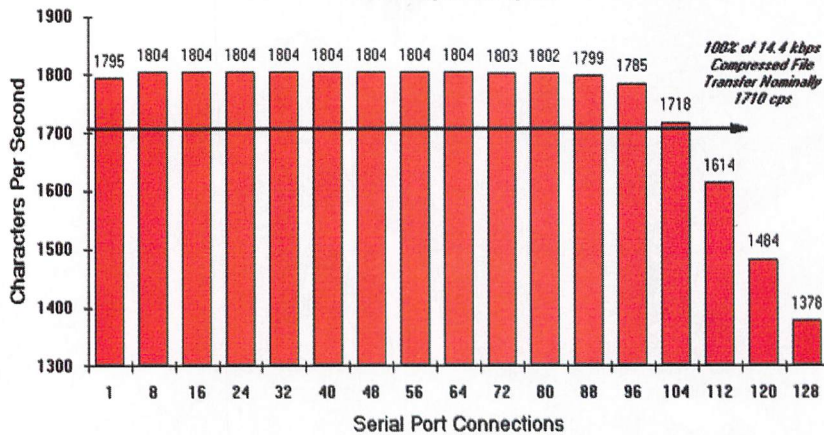
In any event, the Galactinoids were most gracious, I received the full cooks tour, and was delighted to find a group of very enthusiastic BBS type people pretty damn enthralled with what they

were doing for a living. Very young, very enthusiastic. My first contact was with Bob Stein, a thoughtful, perhaps methodical engineer I was immediately comfortable with from the dozen years I spent in the aerospace industry. You may know the type, HP calculator men, invent their own languages and spelling rules in their spare time, and easy to care for. Pin their name on their lapel and stand them on the sidewalk out front after work for their wives to pick them up. Talk all day about whether light bulbs actually emit photons or whether they really rather suck darkness "depletion regions" out of the room. I always loved those guys. Stein is archetypical EE.

The test setup by now had grown a bit. First, they had been working a bit on the software, the impression I had was some extraordinary effort over the past six months. The result was their latest 6.2 version of Major BBS and according to Bob Stein, about a 2.3 X improvement over version 6.1 to an aggregate cps for the box at about 180,000 cps or a little over 100 lines at 14.4kbps modem speeds. A Gateway Pentium P5-60 ran the BBS and two Gateway 486-66MHz jobbers were the test system. One test set sported 32 lines and the other 72 for 104 lines

MAJOR BBS Version 6.2

19,200 bps Port Speed

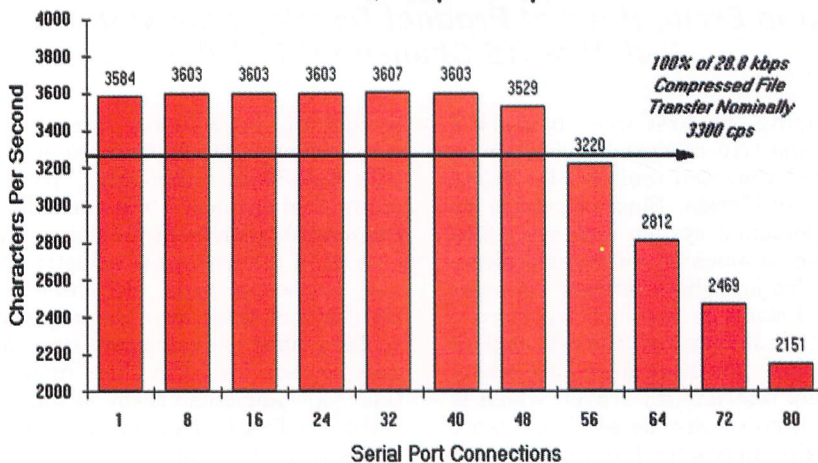


total file sucking capacity. The ports were set at 19,200 bps and as best I could tell were holding pretty well at around 1730-1750 cps per line, and stably so.

My first official act was to ask them to hook a laptop to one of the lines. I logged onto the system and found it surprisingly responsive. Replied to a message from the sysop and then uploaded an attached file, TELIX.EXE I think, which immediately bogged down to about 100 cps on the upload headed toward zero. Not good. As it turned out, it was educational. The Gateway Advanced CMOS setup features an IDE Multiple Sector Mode. This setting can be 1, 2, 4, 8, 16, 32, or 64 sectors per burst, or it can be disabled entirely. This setting programs the IDE DMA cycles to transfer multiple sectors per burst. If you set this option to 64 S/B, you will be assured of the maximum burst size supported by the drive installed in the system. The option was set to 64 by default.

MAJOR BBS Version 6.2

38,400 bps Port Speed

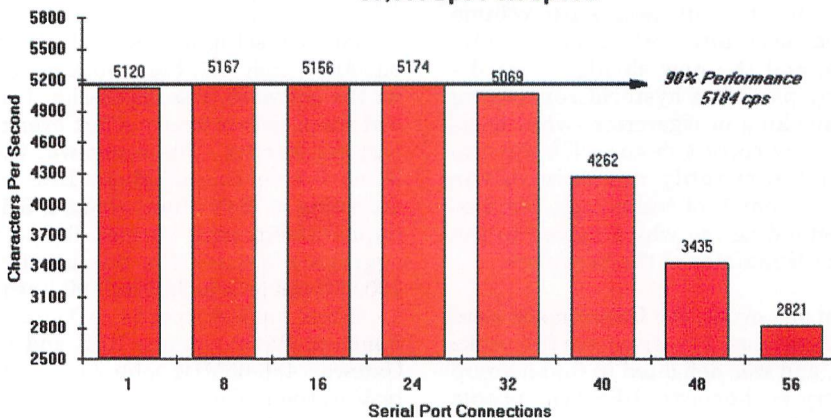


According to Stein, since The Major BBS relies on a combination interrupt/polling method to service modems and serial ports, any low-level process that hogs the computer for big chunks of time (e.g. 2 milliseconds) can cause character loss, particularly on busy BBSs with high bps rates. By setting this IDE Multiple Sector Mode to DISABLED, overall BBS performance decreased slightly, but the upload test then worked flawlessly.

The accompanying charts/graphs tell the story. With a port speed of 19,200 bps, Version 6.2 will crank 104 lines pretty well, drops off to about 84% (1614 cps) at 112 lines, and 1378 cps (OS/2 performance at 12 lines) at 128 lines. The "feel" or response to online callers begins to rolloff at about 80 lines and probably becomes noticeable again at about 96 or 104 lines.

MAJOR BBS Version 6.2

57,600 bps Port Speed



With a port speed of 38,400 bps, life gets tougher. At 48 lines it can crank about 3529 cps per port or roughly 92% efficiency. At 64 lines it can pump about 2812 cps (73.2%) and response on the system begins to be noticeable. Since the new 28.8 kbps modems can actually transfer files at about 3300cps, 48 lines looks like the magic number for 28.8 kbps activity on zipped files. You might get away with 56.

On raw unzipped files, even higher port speeds are necessary with the

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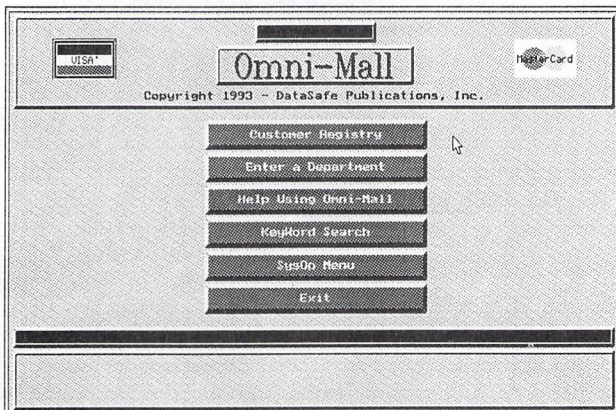
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The premier subscription module for The Major BBS. Works on hourly & subscription based systems. Performs automatic account class switching, credit card checking using MOD 10 and credit/day posting. Designed to work with the POS Dial module for automatic online credit card verification.

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AutoRate is a credit surcharge utility that allows you to vary credit usage rates based on channel group, day of week, and time of day. Ideal for systems using X.25 leased lines, surcharging high speed modem lines or discounting during off peak hours.

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DataSafe is a member of the Professional Developer's Group (PDG). PDG consists of a group of software developer's dedicated to providing the finest products possible for The Major BBS. When you buy from a PDG member you can count on:

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- Well Documented Software
- Quality Products
- Response to Bug Reports
- "One-Stop" Shopping

As a member we resell the following PDG member products.

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AutoRate	Crossroads	Chat on Demand
BBS Lister	Form Editor	Happy Birthday
FOURmation	Global Destruction	Line Monitor
Global Power	HVS Utilities	Match Maker
HelpMan	Major Goose	Remote Console
NovaTrek	The Newsroom	
Omni-Mall	Sysop Notepad	Online Employment Service
POS Dial Module	Text File Editor	
POS Dev Kit		
Super Hangman		
VisaMan v2.0		

Source Code available for most of these modules. Please call us for current pricing and product info.

Sounds GREAT!
But how do I accept credit cards on my own BBS?



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In order to accept credit cards on your BBS you will need to secure a merchant account. Many banks and merchant account vendors don't understand BBSs and how they operate. They either refuse merchant accounts to BBS operators or charge high rates for their services. Teleflora on the other hand knows BBSs and wants your business. As a representative for Teleflora, DataSafe can help you secure a merchant account. Give us a call today for a Teleflora application.

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87191-6032

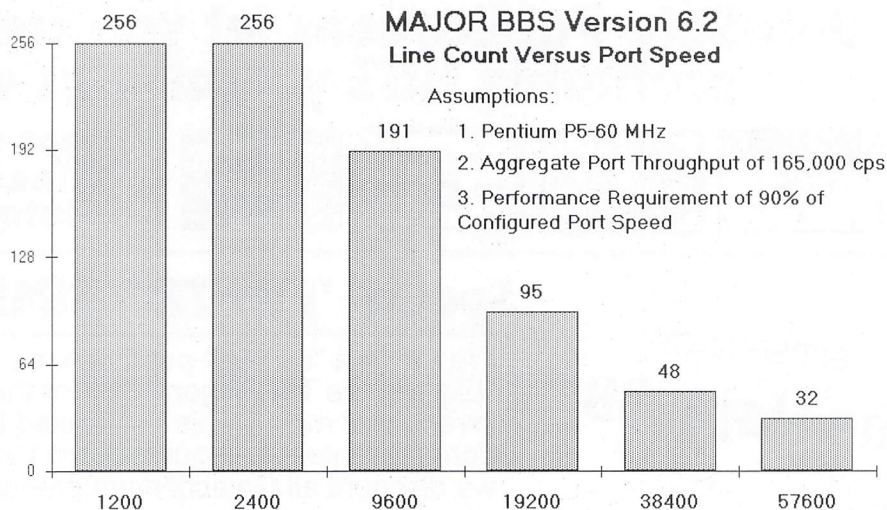
505-294-4980 Voice
505-294-1575 BBS

newer V.FC modems. While raw unzipped files are not really a big issue, that is what these 5-6KB ANSI and RIP screens are effectively, and part of the magic of the high speed modems is the "instant" screens. On a **57,600 cps** port speed, at **32** lines they were pumping **5069 cps** for an **88%** efficiency. Oddly, at **48** lines, the throughput was actually LESS with a **57,600 cps** port speed (**3435 cps**) than it was at **38,400 cps** (**3529**) and the response deterioration was slightly higher as well (**225 ms** vice **150 ms**).

Response turnaround is measured in milliseconds. While the system will pump an aggregate throughput in the **180,000 cps** range, callers won't notice any marked deterioration in system response at all up to about **165,000 cps**, at which point delays of about **150 ms** appear.

The question of "how many lines can it do?" is kind of a variable concept, depending on what you want to do. Chat systems with callers typing at each other on 2400 bps connections don't put much of a strain on this system. And it is true that in operation, you will likely have a mix of callers chatting, reading screens, and downloading files. But our interest here is in finding the limits, not the norms. If we define acceptable operation as each port receiving a full **90%** of the configured port speed, and at the same time we want to stay on the flat part of the turn around response curve- say averaging less than **150 ms**, the accompanying chart depicts the line count limits for optimum operation at various port speeds. These should provide reasonably conservative limit guidelines.

From this, it is apparent that my original statement that they could not do **64** lines with **14.4kbps** modems in download in Version 6.1 was demonstrably and unerringly correct - note that the **Gateway P5-60** wasn't even announced at the time. And I think in response they can honestly now make the claim demonstrably that this statement **isn't** correct any longer with their version 6.2 on a Pentium. In fact, they appear capable of at least **95** lines at those speeds. More importantly, as a pretty direct result of the process, the Major BBS operators and callers can now enjoy a **2.3X** improvement in system performance, and our readers can know with some measure of verisimilitude where the true performance barriers lie with contemporary software tools for online services.



Meanwhile, the new performance barrier is of course the new **28.8 kbps** modems. A port speed of **38,400 bps** is **required** to take advantage of these models - downloading even compressed files you can reach rates of **3300 cps** rather easily. And for menus and raw text files, port speeds of **57,600 bps** and even **115,200 bps** are increasingly desirable.

So the challenge remains challenging. We'll try to bring you further test results on other BBS packages in future issues - keeping air travel to a minimum of course.

THE FUTURE OF BULLETIN BOARDS - COMPU SERVE ON A PC

This was a lengthy article on a topic that may be of limited interest to some. It's not to me. I just recently learned of several bulletin boards that I personally recall starting in the 4 line range within the past three years that are now running, or will very shortly run, 100 lines. We have at least one over 250 lines. And this year callers are flocking to online services of all types in hordes. We are very close to reaching the point where individuals and small services will want to BE a CompuServe on the PC platform. And many of these people are putting their hearts and pocketbooks on the line to "be there" as it happens. Marketing hype and learning the hard way that 9 lines just doesn't happen under Windows is not what they need now.

I think the model that will win in this move toward "unlimited lines" will in fact be a hybrid of the multinode and multiline models. The major multinode platforms such as PCBoard, Wildcat!, and Searchlight are trying to develop some sort of multiplier to allow 8 to 16 lines per PC with multiple PCs LANned together. Even this 12 line per PC multiplier vastly alters the dis-economies of scale posed by the rising wall of hardware these BBS operators face in servicing the current wave of caller demand - if these vendors can do so while retaining the openness and flexibility of their current software - and retaining some semblance of system stability.

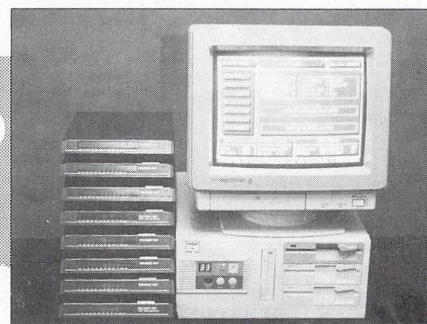
Similarly, I know that most of the multiline players, including TBBS and Major BBS, are working on more open systems that can share userlogs and message bases across the LAN - and provide some of the more common LAN services as well. With this model, if the resulting hybrid can service **48** or even **32** lines per PC, and be essentially "stackable," you could line up a dozen machines and a file server on a Novell LAN to handle **550** lines efficiently and effectively.

Through either route, the prospect of an entire industry of hundreds of bulletin boards sporting multiple hundreds of access lines is a handsome vision. It's a good future for many many people. Perhaps not good enough to get me on an airplane soon, but good enough.

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That's because WILDCAT! IM lets you run off-the-shelf applications as ordinary menu selections. We even give you a customized version of DOORWAY — to add Digiboard compatible COM I/O routines to your favorite DOS applications.

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Whether you need local or wide-area messaging, whether you want shared public conference mail or point-to-point E-Mail, WILDCAT! IM can help you do it. Whether you need a simple QWK-compatible network, or our optional MHS and UUCP gateways, WILDCAT! IM helps you move the mail.

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RIP (Remote Imaging Protocol) graphics come standard with WILDCAT! IM. Users can select menu commands with the mouse, and see graphics comparable to or better than those found on Prodigy or America Online. And we don't make your users give up their favorite professional communications software, either. RIP graphics are fully supported by QmodemPro.

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Of all the new computer hardware developments of the last decade, none have had more impact on the BBS world than CD-ROM technology. CD-ROMs are a perfect way to add huge numbers of files to your BBS. Instead of making you use third-party doors or expensive add-on modules to support a CD-ROM, WILDCAT! IM treats it just like another hard drive, showing the CD-ROM files as part of your regular file download areas.

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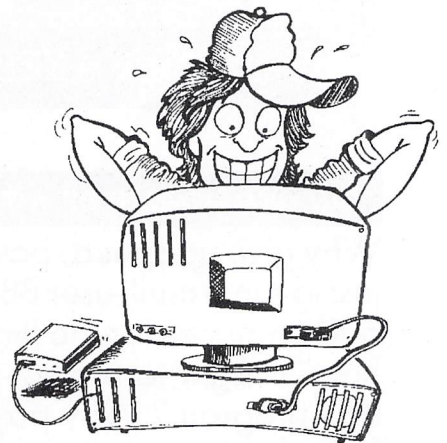
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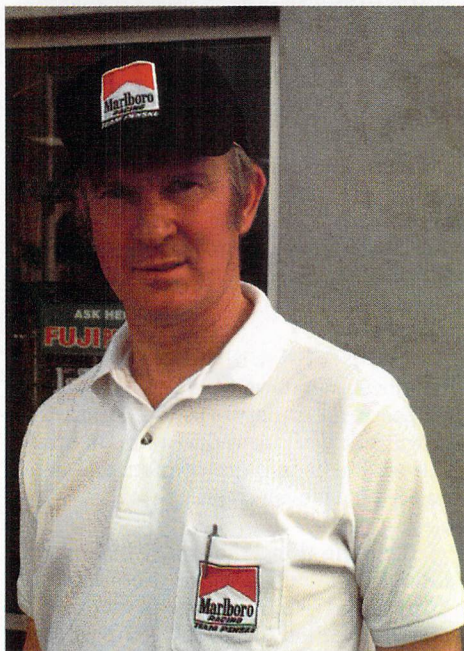
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Never an Upload/Download Ratio!

GETTING THE MOST FROM YOUR TAPE DRIVE

By Jim Thompson
Western News Service



No matter how much disk space you have or how many disks you add to your system, sooner or later you begin running out of room. It seems a fact of life that the more space you have the more you need.

I don't know about you, but I find that the more disk space available to me, the more careless I become with the housekeeping chores. It is just so easy to store everything on the disk instead of putting it away on a diskette or tape.

There may never be a real solution to this problem short of continuing to buy bigger hard drives. However, one company, TAPEDISK Corporation, does offer a unique approach. Their TapDisk software allows you to use a SCSI tape drive (most QIC, 4mm and 8mm drives) as a disk drive.

This is truly one of the best pieces of software I have seen in a long time. When using TAPEDISK, DOS and Windows software actually treats the tape as a hard drive. This means you can read and write data directly to or from tape. Even Norton utilities treat the tape as a fully functioning hard drive.

I know some are thinking, "so what's the difference between this and the backup software I use? After all, I can send data to the tape and I can retrieve that data when I need it."

The difference is simply that you do not have to restore a file to disk before you can use it. For example, in Windows or Windows for Workgroups, you can use the drag and drop method to copy and/or move files and directories (yes, I said full directories) between the tape drive and your hard disk. You can even run programs directly from the tape. As I said, this is just like having a fully functioning hard drive at your command.

The only difference you will notice between using a disk drive and a tape operating under TAPEDISK is the access speed. However, if you are using a relatively fast DAT drive, you will be amazed at how quickly it does operate.

I tested TAPEDISK with a WangDat model 3400DX and a WangDat model 1300. Using the 3400DX, I got transfer rates when copying full directories or complete disk copies of about 26-megabytes per minute. When requesting a file at random from the tape in a word processor, it took only about 8-seconds to find and display virtually any file on a 90-meter, 4mm DAT containing 1.5-gigabytes of data. When using hardware compression, the time dropped to about 6-seconds.

The model 1300 gave me transfer rates of about 10-megabytes per minute. Retrieving a file at random on a 60-meter, 4mm DAT containing about 1-gigabyte of material, took approximately 10 seconds.

TAPEDISK provides several nice utilities that help speed-up reads and writes to tape. One of them is called TDSEEK. Since it is a "single threaded operating system," DOS does not allow for any other operations to take place when looking for a file on a tape or any other media. Using TDSEEK, a search for a file is initiated and control is returned immediately to DOS. This allows you to do other tasks while the search is in progress. Once the search is complete the file is immediately available to you.

This is not lightning fast, by any means, but certainly faster than most CD-ROMs and a whole lot better than not having the material available at all.

Of course, even the fastest tape drive will not deliver anywhere the speed of a hard disk, but there are several other major benefits.

First, the tape drive provides a virtually unlimited amount of removable storage. A 60 meter, 4mm DAT provides approximately 2-gigabytes of storage space and this is without compression. If you add compression, the available space can be anywhere from 3.5-gigabytes to 8-gigabytes, depending on the type of material you are compressing and the drive you are using. When you begin running out of room, just insert a new tape and — WHAM! you have another 2 or more gigabytes of storage space at the ready.

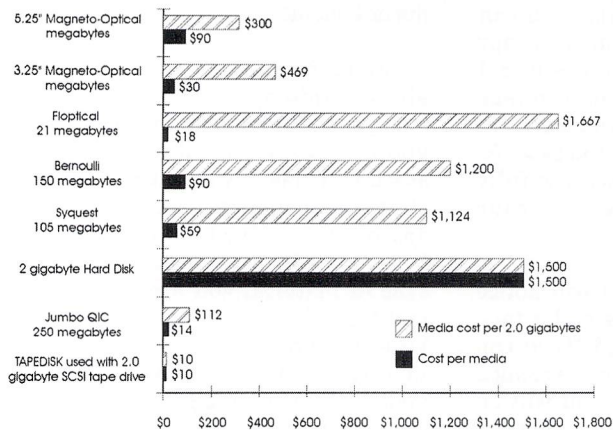
Another major feature is that tape is a VERY secure medium. As long as you don't leave a tape on the dashboard of your car to be baked in the August sun or you don't store it in the snow bank in your back yard, the data on your tape will remain secure and intact.

Also, according to TAPEDISK Corporation, "it is simply not possible for a virus to corrupt a TAPEDISK volume that has had a checkpoint written. A TAPEDISK is one of the most secure on-line/near-line/writeable storage devices available." (Note: A checkpoint is written to a tape when it is "Unloaded.")

Setting up and using TAPEDISK is a relatively straight-forward task. You first load a device driver. This requires a SCSI ASPI manager and will consume 40-45k of memory, but can be loaded high. EMS Memory is also required for the storage of file and directory information. This allows for virtually instant listings of the files available but will cost you anywhere from 500-kilobytes to 3-megabytes of EMS memory.



Cost per Media Total Media Cost per 2.0 Gigabytes of



based on poll of prices in *Computer Shopper* January 1994 issue

Before using TAPEDISK, you must first format the tape you will use. This is somewhat like a low level and high level format of a disk drive. Like a disk drive, this process only needs to be done once for a tape.

The process for loading, and actually using, TAPEDISK is to first load the device driver from your CONFIG.SYS file, this allocates the needed memory for the files and directories (a program

named GETMEM.EXE is used for this). The next step is to 'mount' the tape drive itself (typing TDLOAD followed by the drive letter designated to the tape accomplishes this task). Mounting or loading allows the tape to communicate with DOS as if it were a disk drive (this is similar to the 'mount' command under UNIX).

Once the tape is mounted, it is, for all practical purposes and as far as DOS is concerned, a fully-functional disk drive.

CHKDSK reports the same statistics as it does for a normal drive, including the size of the disk (tape), the amount of space available and the number of files.

TAPEDISK works so well you can even run programs from it. Granted, this can take some time (depending on the size of the file that is to be loaded) but it does work. If your disk were to crash and you desperately needed to get to some material, this program could really save your bacon.

I know I am old fashioned, but I still use XyWrite for most of my word processing tasks. This is the perfect type of program to run from TAPEDISK because it loads entirely into memory. Even if it takes a long time to load, once loaded it works as fast as if it were loaded from a disk. It took only 30 seconds to load XyWrite from my DAT drive. This includes finding the program, loading not only the actual program but also the printer driver, the keyboard definition file, all of the help and menu files plus the spell checker and the thesaurus.

The TAPEDISK drive worked so well that at one point I got careless and ran Windows! Sure, it took a long time to load — about 10 minutes, but this included loading Norton Desktop, about 30 file icons, and a number of utility programs like the screen saver, font

files and a virus checker. The amazing thing is that it did work.

Besides operating with an impressive list of SCSI controlled tape drives, TAPEDISK can also be used on a laptop computer (or a desktop computer for that matter) via the parallel port using a parallel-to-SCSI adaptor like a Trantor T358.

The program does require a 386 or 486 CPU, MS-DOS 5.0 or higher, Windows 3.1 or higher, 4-megabytes of RAM when using it in a DOS environment or 8-megabytes of RAM under Windows.

TAPEDISK will work fine under Windows, Windows for Workgroups and on peer-to-peer networks like Lantastic. It will not work as a device on a Novell server, but it is quite comfortable as a device on a Novell client.

The one thing that must be kept in mind is that unless the tape drive is 'unloaded' data loss can occur. A program called TDUNLOAD provides this function. As explained by TAPEDISK Corporation, "this operation copies critical data structures from RAM out to the tape prior to the removal of the tape cartridge. To insure that you have properly written data to your TAPEDISK, you must run TDUNLOAD before rebooting and before you remove the tape from the tape drive."

TAPEDISK is the perfect solution for the storage of large image files, desktop publishing files, AutoCad drawing or those fax files that seem to keep piling up.

I was also most impressed with their technical support staff. As more and more companies move away from free support, it is refreshing to see a company which genuinely seems to care about their customers. When calling to their tech support office, I never had any problems. Compare this to trying to get a call through to MicroSoft or most of the other large software companies.

Besides getting through with no trouble, the tech support staff provided some honest-to-goodness assistance. Everyone on their staff actually understands the product and is willing, and even eager, to help. One of their support personnel, Ralph Shnelvar, was especially helpful. When I experienced problems using my WangDat model 1300, he took the time and trouble to write a new driver so it would work with the program.

DRIVES SUPPORTED BY TAPEDISK

MANUFACTURER	DRIVE	MODELS
Hewlett-Packard	DAT DAT / DDS-2	HP 35450A
		JetStore 2000 (35470A)
		JetStore 5000 (35480A)
		JetStore (C1,533A)
Conner (Archive/Maynard)	DAT	Python
	QIC	Turbo Python
		Viper 2525
Colorado	DAT1	PowerDAT
	PD60	Series 6000
	QIC2	PowerTape
	PT10	Series 1100
	PT25	Series 2400
	PT50	Series 4000
Exabyte	DAT	EXB-4200/4200C
	QIC	EXB-2501/FSIG
	8MM	EXB-2501 C EXB-8205/8500/8505
Legacy	DAT	4000D
	8MM	2005H/5005H
PCM Technologies	DAT	All Models
Sony	DAT	SDT 2000/4000
	DAT / DDS-2	SDT 5000
Tandberg	QIC	TDC 3800
		TDC 4100
		TDC 4200
Tecmar	DAT	DataVault 2000/4000
	QIC	QICVault 4000
	8MM	THS 5000
WangDAT	DAT	1300
		3100
		3200
		3400
WangTEK	DAT	6200HS
		6130HS

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ANSI menus?

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Graphical user interfaces have been available on many different computer systems for years. But until now, you haven't been able to get a bulletin board system with a GUI unless you used a proprietary solution. Until now. RIPscrip (Remote Imaging Protocol script language) is a published specification developed by TeleGrafix supported by over twenty-five leading vendors on the PC, Macintosh, and Unix platforms. Any on-line system that can display a text menu can use RIPscrip. Chances are that your favorite BBS has RIPscrip support built in.

RIPdraw™

RIPdraw is the entry level RIPscrip graphics creation package. Designed for recreational system operators and the telecommunicator, RIPdraw is perfect for creation of stunning on-line graphics at a low price - \$49. • **Special - \$35** •

RIPaint™

RIPaint is a graphical drawing environment designed for creating menus and screens to supplement or replace a host's existing menus. Integrated tools for creation of clickable buttons, creation and use of bitmap icons, and optimization of files makes this a powerful tool for creating a graphical user interface for your system at an affordable price - \$200.

RIPscrip Graphics are supported by these bulletin board systems:

The Major BBS (Galacticomm)
NovaLink Professional (ResNova)
Osiris XLT (Int'l TeleCom)

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Remote Access (Wantree)
Searchlight (Searchlight Software)

Synchronet (Digital Dynamics)
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CONTACTS:

TAPEDISK

TAPEDISK Corporation
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Oshkosh, Wisconsin 54901
Tel: (414) 231-3333
Cost: \$245.95

MiniNet BBS Professional

Crater Rim Software
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BBS (206) 725-9233
(206) 723-6728 V.32
Access Charges: \$25 or \$60 per year (depending
on access). Limited free access is also available.

At first I thought this was just because I was writing this article. But, as he explained, they have done this several times in the past. The reason is simply that it allows them to offer support for a larger number of tape drives for other customers. Now, this is what I call dedication to customer satisfaction.

For the Sysop, TAPEDISK is also an excellent way to provide users with access to a large number of files. However, you must remember that a tape device can only perform one function at a time. Using it under a multi-line BBS is tricky, but it can be done.

Sal Manaro, owner of Crater Rim Software and creator of MiniNet Professional BBS has come up with a superb approach to using TAPEDISK on-line. Incorporated into his BBS is full support for this tape utility. His tape drive is mounted in a 486 machine which is a client on a Lantastic Network. He provides his users with access to 6.6-gigabytes of files via TAPEDISK.

His approach is straight-forward and well thought out. "I have written a utility which is incorporated in MiniNet Professional BBS which handles requests for files from the TAPEDISK," says Manaro.

If a user requests files that are on the tape, he is presented with three options.

1. He can elect not to receive the files on tape and download any other files he has tagged that are located on the disk.

2. He can browse the system until all files are available to him. In this case, he will be alerted when the files can be downloaded.

3. He can get the files on disk and then disconnect. The next time he calls, the files on tape will be placed in a holding area waiting for him to download. Again, he will be alerted that the files are available.

The MiniNet BBS works with all drives supported by TAPEDISK. For his system, Manaro uses a Colorado QIC format 4-gigabyte Powertape. This is not a DAT which means that accessing files can be relatively slow. However, the MiniNet BBS software incorporates a number of very efficient ways of processing the requests for files located on tape. The result is minimal delays in making the files available for download.

"This system is far better than a CD-ROM as it allows easy updates of TAPEDISK data without the cost and waste of CD-ROM disks, affords 3 to 4 times the storage capacity and makes use of your SCSI tape drive when not being used for backups," Manaro notes.

He also says if there is enough interest he is willing to write a doorway program that will allow his tape handling software to work with any BBS. If you are interested, give Sal a call.

In addition to support for TAPEDISK, MiniNet Professional BBS offers a number of innovative features like, built-in CD-ROM support, support for all major BBS doors, the ability to send both graphics and music and support for 22 protocols. Mininet also has a unique reverse access mode which allows the Sysop to access a user's system via an optional NetAccess module. At a cost of \$295, this includes support for 26 incoming lines, MiniNet is definitely worth a close look. You can test drive the system by calling the MiniNet board.

TAPEDISK is an exceptional product and one that any BBS operator who owns a DAT drive should add to his system.

[Jim Thompson is Managing Editor of Western News Service in Los Angeles, California. He also manages the Marlboro Racing News BBS. CompuServe: 72777,2677, MCI Mail: 321-4127, INTERNET: jim.thompson@wnsnews.com]

MEETING YOUR MATE ONLINE: A PRIMER

by Phyllis Phlegar

Have you been thinking of doing your "dating" by letting your modem do the matchmaking? There are many ways to go about it, but I think I can give you a few tips, from my own experiences.

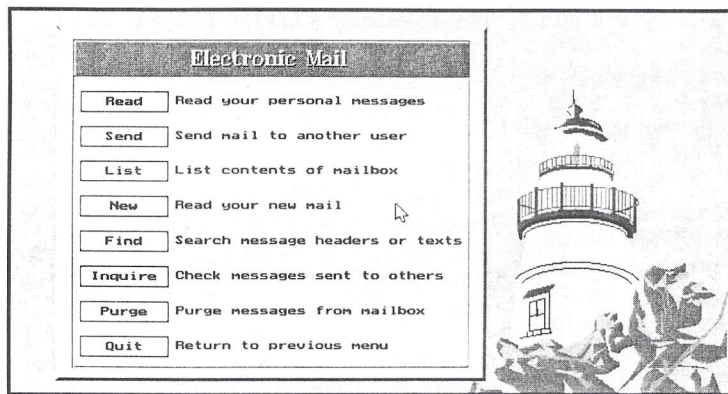
Over a year ago, Redbook did an article about my husband and me, and how we met on Prodigy, fell in love, and got married. However! They didn't tell the REAL story. Instead they wrote a nice, watered-down, pinkie up, "we can't put THAT in our nicey nicey magazine, so we'll make it up" version. So I think it's time to set the record straight.

In May of 1991, I left North Carolina to, once again, reconcile with my then-husband, who was in Denver. Shortly after I got there, I went out on the job hunt in my field, broadcasting. In the meantime, I wanted to learn about computers, so within a month, I got very lucky and got a job as a software stock clerk at a well known Denver computer establishment, CW Electronics.

It wasn't long before the folks at CW had discovered that my then-husband owned an XT, with no hard drive. Within hours, the tech guys had found an old hard drive and proceeded to install it. They were shocked that I was so computer crippled! Not long after that I met the Prodigy rep. for the Denver area, a charismatic guy named Ken. What, he said, you don't have Prodigy?! Whomp! I had Prodigy! And went on-line, googly-eyed like every computer illiterate...for hours and hours.

By early July, I'd mustered up the courage to actually post a question publicly in the computer area. The next day, there were several replies, which meant, for me, more questions! I answered one of them privately, not wanting to appear too ignorant. The guy's name was Hal...from Sacramento. He seemed very friendly, and I'd noticed that he posted a lot, in literally every part of the computer board.

Then, something unexpected happened; I was told that my cherished kitty, Saturn, had cancer, and even though they operated to remove the tumors, she was going to die. I was



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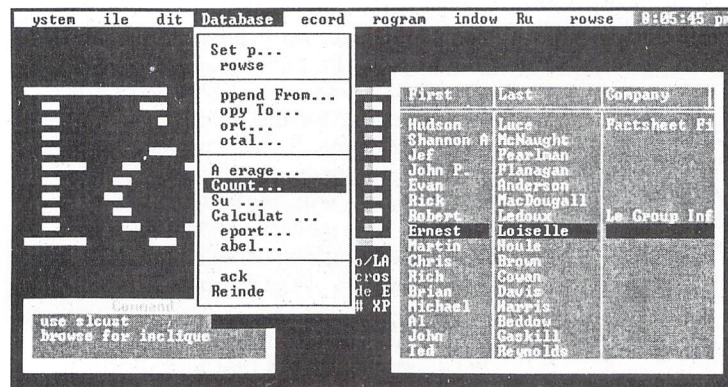
RIP support—not RIP service

Some choose Windows; others pick OS/2. But everyone loves the dazzling displays, intuitive menus and mouse support that a graphical user interface provides. They don't like giving those features up whenever they call a BBS.

That's why more and more callers use the Remote Imaging Protocol by TeleGrafix—and every BBS program says they support RIP. But all RIP support isn't created equal. Ask these questions to see how your BBS compares to *Searchlight 4.0*:

"Searchlight has incorporated RIP technology to an amazingly integrated level with their BBS ...It looks hot."

Jack Rickard
Boardwatch Magazine



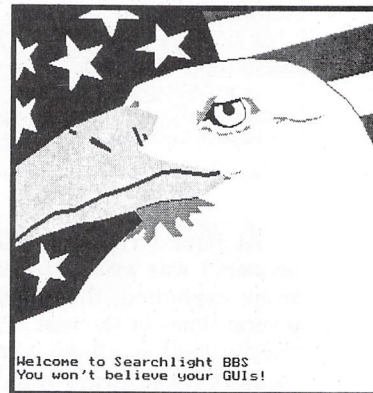
Searchlight 4.0's direct video support lets you run any text-based DOS program as a door

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Local

Searchlight 4.0 lets sysops see RIP graphics...



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!ZAQ6AAT63B063B16A0K!FAX5X00!BBE69BL7S
!ZBE68BU4UCE6NBUS0K
!ZBU6SC26UC36C2750K!BBU75C27S
!ZBU75BX73BU6YB06Z0K!LB06YB06N
!ZB06NBV6UBX5UBK690K!FBS5Z00
!ZC15RBV50BZ82CT7T0K!LCT5QC165
!LCT7FCT7T!ZCS65CA66C87DC7G0K!FCD6900
!BCY5RD47S!BD46!DG6U!BDF5RHE7S!c0F
!S010F!BDN5TDU7E!ZDN7ED07NDM7IE37R0K
!ZDU78DS7BDU7GE37D0K!LE37EE37R!FDR7K0F
!BE95IEG7R!ZFK62EM4MEC7YF87T0K
!ZF87IRN7ORN7DFO700K!BF66MF06Z
!ZFG6ZEH7MEJ7I7F2670K
!ZF167F665FD67FG6E0K!LFG6EFK62!FF37L0F
!BFU5TC27R!BG16!LGG6U!BGC5TGJ7R
!BCP5THB67!BCK68H47R!c00!LEC50EC4I
!LD152F652!LE34UEM5B!LE35AEM4U
!LE64RE15D!LE75DEH4T!LDZ4ZEP56
!LDX57EQ4Y!LEB5IEC5I!c01!Y00000100
!E0279Welcome to Searchlight BBS
!E027JYou won't believe your GUIs!
!B!#!#

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RIP

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only display RIP codes

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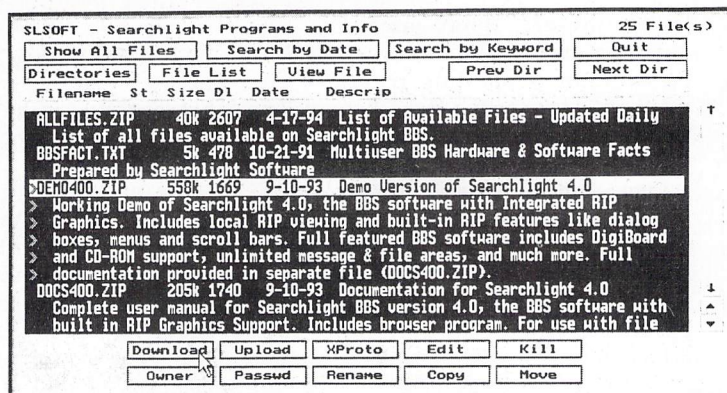
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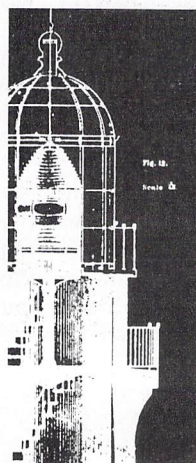
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beside myself. That same day, I'd gotten a call from Business Radio Network, for a follow-up interview. So my next letter to this Hal fellow ended up saying, in effect, that the job I wanted might come thru, but that my cat was dying and I was heartbroken. I am not sure I even mentioned anything that had to do with computers. His reply was comforting, saying that he had a dog that died recently, and he understood "the attachment."

Hal and I continued a casual, three or four times a month e-mail correspondence. I'd left CW for Business Radio, and moved down to Colorado Springs, with my dying kitty. But don't think for a moment that I told Hal, who was a virtual stranger, anything about me, like, where I was working, my age, or my location. Having been in broadcasting for 20 years meant I was cautious, very, very cautious. You should be cautious too! You can't be too nosey when it comes to these things! Meanwhile, the reporter in me discovered that you could search on Prodigy by ID, and of course I was carefully reading all of Hal's posts, to see just what kind of person he might be. It was great fun, and it did tell me a lot about his personality. He genuinely was interested in everyone he spoke to, was smart, funny, apparently over 30, and didn't take any crap! Even though his ego showed, you couldn't help but like the guy.

One thing I surmised was, by the volume of Hal's postings, was that he didn't have much of a homelife...he was on-line every night for 5 to 6 hours, easily. And I wasn't sure whether or not he was married, either. And since I already regretted having reconciled with my then-husband, Hal's marital status was a concern. I was getting to like him, and wasn't about to have a long distance relationship with a married guy. The whole thing was strange; I was afraid to tell anyone about him for fear they'd think I was seriously twisted.

By mid-October, I'd discovered thru his public posts that he was indeed married and I was very disappointed. Nevertheless, I was slowly trying to untangle myself from my worthless marriage.

By November, Hal told me he worked at a very large credit union, in a position of responsibility, and that he was also active in his computer user group, which was 2600 members

strong. So I took a chance, and told him that I worked on a national radio network and that we had an affiliate in Sacramento. So he could, if he should be so inclined, tune to that station and hear my voice.

Hal's letters immediately changed. For the next month, he asked me lots of questions and talked about himself, personal stuff about his career in the Army, Vietnam, and his marriage. He was 44 at the time, I was about to turn 39.

By December, we were e-mailing daily, and Hal had gotten me on GENie also, so that we could e-mail cheaper. By this time, I felt like I knew more about him than his wife, and was beginning to feel like "the other woman." And Hal was asking me intimate personal questions, and my warning flags went up. For about two weeks, we argued via e-mail: I called him a cheating married man, who was trying to fool around via the computer with me, using me, when I thought that he ought to work harder on his marriage. I am surprised his system didn't crash, considering the stream of ugly e-mail that came from me during that time.

To my surprise, he really didn't try and defend himself, he said, strongly, that I didn't know the story, and he did, and I needed to trust him, period. Within two weeks I'd gotten my then-husband to leave, and told Hal (via e-mail, of course!) that I loved him. What I found out later, was that Hal had asked for a divorce years before we met on-line. And he and his wife were very close to splitting up due to the years of little or no communication or intimacy.

At the end of January 1992, Hal and I met in person at Denver's Stapleton Airport. He was on a lay-over for a business trip, and we didn't have much time together. But he went back to Sacramento, and began making plans to move to Colorado Springs. We only saw each other every 5 or 6 weeks. By Aug, he was formally separated, had left his job, and sold his house...while I'd bought one. Our on-line relationship ended when Hal arrived at my little cottage with a truck, loaded with all his worldly goods. The first thing he did was to set up was his computer...right next to mine. I couldn't believe we were actually together, to stay.

We were married the following Spring... We were lucky, though, because we were very, very, honest, and took the chance and opened ourselves up thru the "safety" of the computer. But there are people who lie and deceive on-line, and you can get hurt. But if you are careful, and take it slow and easy, it can be the best way to meet, and really get to know someone. Having that on-line link can keep your phone bill down to a dull roar, help you make it thru the rough times, improve your erotic writing skills and be a general all-round warm fuzzy for those who want to stay close, but are thousands of miles away.

Hal and I recently went to see Ken, the Prodigy rep (he's now working full time at CW Electronic) who got me on-line in the first place...he's very proud and he knows the part he played; we consider him our "genesis."

And by the way, about my little kitty, Saturn, the one with cancer, whose illness prompted me to write back to Hal in the first place...She's still alive and apparently doing pretty well as she turns 15. Happy Birthday Saturn!

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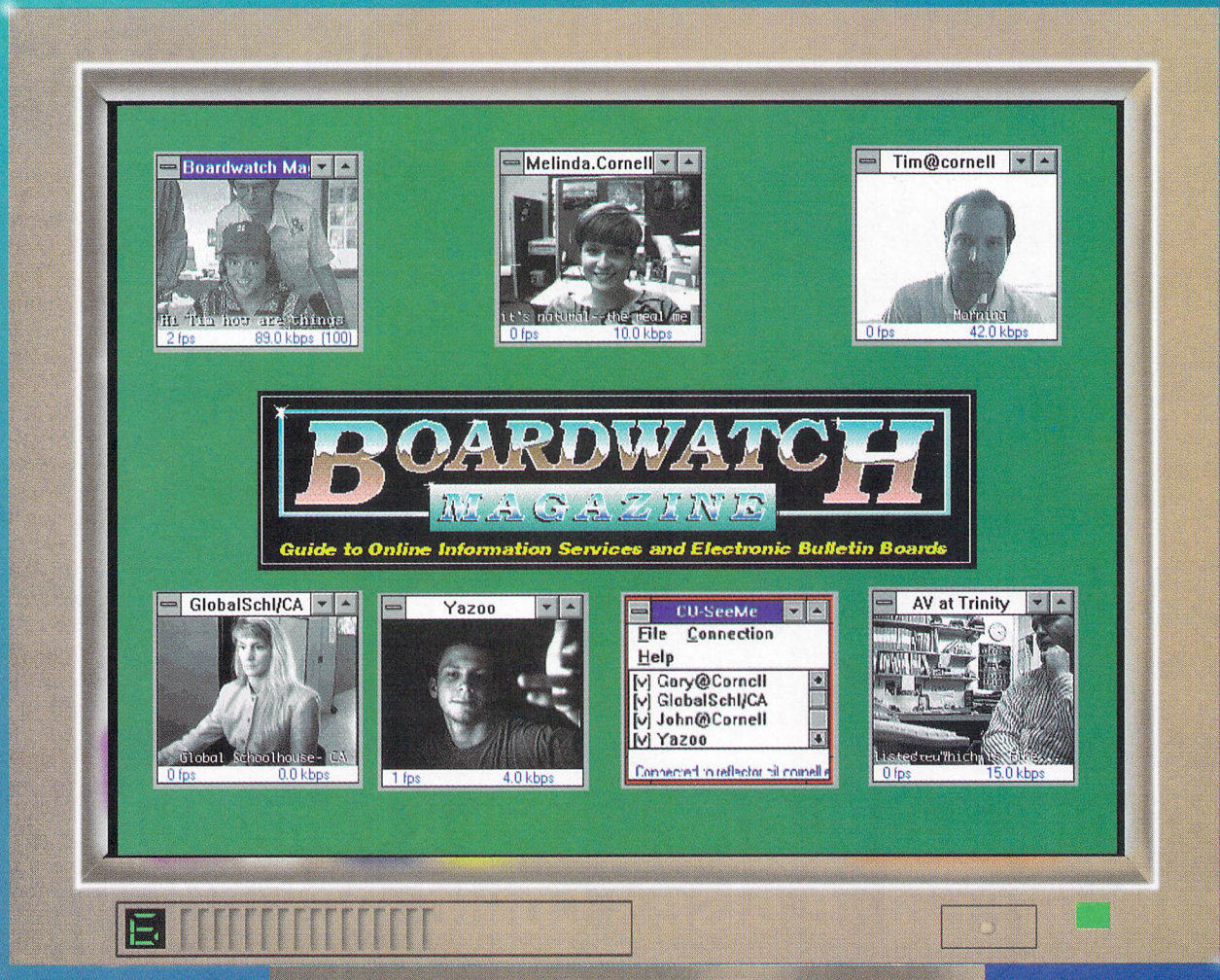
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Internetica



INTERNET VIDEO: I SEE YOU, YOU SEE ME

by Brian Gallagher

The television commercial goes something like this, "One day you will talk to your television and see and hear the person on the other end, and the company that will bring it to you is..." well it doesn't really matter, because that one day is here and now! The company that was going to bring it to you tomorrow can stand in line as a programming team from Cornell University beat 'em to the punch with live video and audio over the Internet.

The program, CU-SeeMe, allows multiple video windows to operate on a single PC or Macintosh screen at the same time, with each window able to transmit and receive text as well as audio. While the black and white video is far from perfect, (the more windows open, the more bandwidth used, the slower the video), and audio is only available for Mac users at this time, live video conferencing from around the globe is more than just a little bit intriguing.

Dick Cogger, head of the programing team that developed the software at the university said the idea for live video over the Internet came to him after an exhibition of just that by Paul Milazzo before the Internet Engineering Task Force (IETF) in November of 1991 on a SUN machine. "I recognized that there were a lot of people across the country with the hardware to achieve live video," Cogger said. Armed with Milazzo's source code on a restricted license, Cornell programmer Tim Dorsey had the task of adopting it for the Macintosh platform and did so by the fall of 1992, (other important programming contributions came from Scott Brim and John Lynn of Cornell University Medical Colleges).

By January of 1993, using a reflector program, which takes all of the digitized video information and "reflects" it to every other site that is connected to a particular IP address, the team was able to run multiple video windows over the Internet. In October 1993, the National Science Foundation was impressed enough with the progress and potential of the software to partially fund the project

for use in education. It wasn't until the first weeks of March 1994 that audio capabilities were added to the features of CU-SeeMe by utilizing Charley Kline's Maven audio program for Macintosh computers. According to Cogger, users have run Maven along with CU-SeeMe with good results. For more information on Maven subscribe to the Maven discussion list: **list-serv@cnidr.org** leaving the subject line blank, including your name, the name of your organization or affiliation, and the name you would like to appear on the subscriber's list. If this gives you any difficulties contact: **laura@cnidr.org** or **jane@cnidr.org**.

Cogger said that while it is possible to run CU-SeeMe through a modem, (no speeds lower than 14.4 kbps), a 56 K, 64 K, T-1 or T-3 connection is much preferred and absolutely necessary for audio transmissions. Running the program through a modem it is possible to "see" the video pictures but the video quality will be considerably reduced. The in-house Cu-SeeMe compression routine on the program works by comparing successive video frames and sending only the parts that change. If a party is using a 14.4 kbps modem to view the program in action, it is likely that they may have several ghost images of an individual floating around the video window; instead of receiving frames/second, it will receive seconds/frame, resulting in a rather coagulated view of things - unless of course your viewing subject remains relatively motionless.

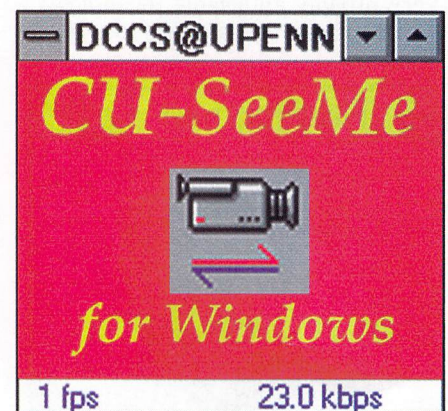
Considering that each video stream is 50 to 100 kbps of information, and that multiple windows means multiplying this figure by the number of windows, the program can eat up Internet bandwidth in a hurry. This also means that even with direct Internet connections it is likely that all of your video windows will not be 100 percent perfect all of the time, although some will come out better than others, depending on their Internet connection and hardware. Limiting the number of active video windows open on your screen increases the resolution, Cogger recommends no more than eight windows be open at a time - including your own.

I found I preferred to keep the number of video windows open to around four or five, as I really enjoyed

looking at my screen and simultaneously viewing, actually SEEING people live in New York, California, Iowa, North Carolina and New Zealand all at once, but found that effective communications could only be established with two or three people at a time using our 56 kbps link and keeping my eyes from crossing. Any of the windows can be minimized to an icon, or enlarged to about a quarter of the screen.

Communicating is done vocally using the Mac version. Audio is not yet available on the Windows version, but you can click the mouse pointer on your video box, (activating your window), and type in your message. The problem with this is that the individual video windows only hold 21 characters before it starts scrolling. If you can type at a reasonable rate the other sites receiving your information will see nothing but a mis-matched garble of hieroglyphics streaming along the bottom of their screen. Of course I was running on a 56 kbps leased line with the brand new PC version of the software - I understand that the Mac users, especially those with T-1 connections, didn't have it so bad.

CU-SeeMe transmits text as video and so is updated in the same way, which tends to be rather awkward for text. I was able to skirt the problem by typing no more than 21 characters at a time (filling the screen), waiting a moment or two, hitting "Enter" to clear my screen and typing another 21 characters or less, until my message was complete. Yvonne Marie Andreas,



CU-SeeMe for Windows
by Steve Edgar and
Rich Kennerly of
Cornell University

a director and "core member" of the Global Schoolhouse Project in Carlsbad, CA, said that when they first started using the system in January of 1993, they communicated by writing on an erasable board in large black print and holding it in front of the monitor.

Despite the bugs and quirks that are still being worked out of this technology, I found it fascinating. Just for kicks, I called the person in one of my windows on their voice line. It's hard to describe the feeling of WATCHING somebody answer the telephone call you are placing to them over 2,000 miles away - simply amazing!

The biggest problem facing the software engineers for CU-SeeMe seems to be bandwidth, or lack of it. In the ReadMe file provided by Cornell, there are numerous warnings for users to pay careful attention to the amount of bandwidth they are using when running the software. To expound: imagine eight individuals tapping into the same reflector site at the same time, each sending out one stream and receiving seven. Assuming the reflector site has only one ethernet interface, that means it is processing eight in-streams, and 56 out-streams. If each remote site is trying to receive 100 kbps it equates to some 6.4 Mbit/second - enough to seriously congest most any system. Limiting the kbps that you receive is the best way to alleviate this problem and can easily be done in the "Preferences" section in the "File" scroll. It should be noted that while many, many people can use CU-SeeMe, with current bandwidth limitations, everyone can not use it.

Cogger described CU-SeeMe as "Very broadly applicable technology," adding that it is "already having a

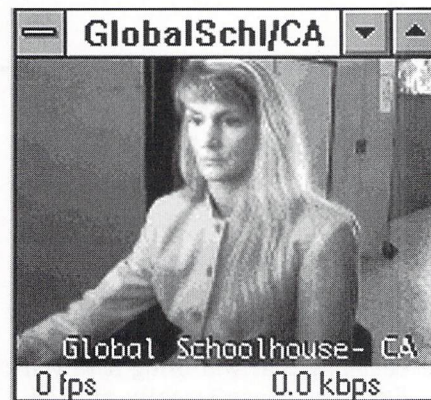
pretty good impact for what is (essentially) prototype/experimental software." One of the applications that CU-SeeMe is carving out a niche in is that of education. Through the Global Schoolhouse Project, classrooms from fourth grade through High School are interacting and networking on projects of similar curriculum regardless of grade level.

In January of 1993 the Global Schoolhouse got rolling with CU-SeeMe. The first step was supplying selected schools in California, Tennessee, and Virginia with T-1 lines, video cameras and Quadra Macintosh computers. From there the students began to get their Internet feet wet and are now accustomed to using ftp, gopher and Mosaic for researching projects.

Two students, Paul Wilcox, 14, and Erin Lopez, 14, from Jefferson Junior High School, in Oceanside, CA, both find the Global Schoolhouse experience rewarding. So rewarding in fact that they actually get to school early, stay late, spend lunch hours and some weekends at school, online, on video, doing desktop broadcasting. Wilcox, who has been with the project for the past year said the project "makes school more interesting" and gives him "something to look forward to."

Last year while doing a research project on groundwater pollution he thought it fascinating that the pollution he found near Oceanside was very similar to the pollution other students were finding in London. Erin also enjoys doing research using CU-SeeMe and the Internet, particularly on the subject of space. "A year ago I really didn't use computers a whole heckuva-lot," she said, "Once I got into the Global Schoolhouse Project, I really started to enjoy them."

She likes the fact that there is always somebody to talk to and especially enjoys conversing with "Steve" at Cornell University, as he always "has interesting things to say." This year GSH is working on four global projects: space exploration, alternative energy, natural disasters and solid waste management. Since the students were some of the first to use the program they were also some of the first to use sound, which they started using in March of 1994. The biggest problem they found with audio is everyone talking at the same time. Communicating took a bit of getting used to and is reminiscent of the early



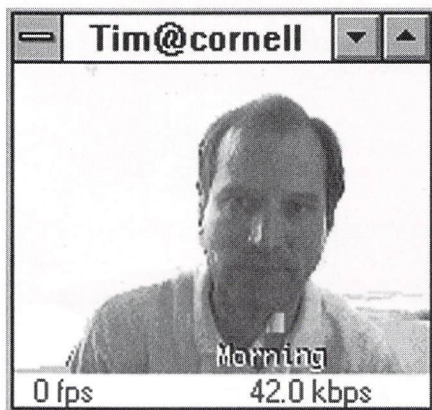
Yvonne Marie Andreas of The Global Schoolhouse Project

1970s and CB radio with a speak - pause - speak - pause - and the occasional "Over." (Allow a couple of seconds for the audio transmission to reach its destination.) Private audio conferencing can easily be achieved by clicking on a microphone icon and the window(s) you wish to be speaking with.

One of the interesting people students have met is Brad Allison, a Junior at North Carolina State University who has been doing video digitizing since he was in high school. Allison is a member of a student run organization known by the acronym CATT, for Computer and Technology Theme program. Basically the program centers around a dorm with six suites subdivided into eight rooms with a total of 14 people per suite. Each of the rooms and the lounges in the dorm all have Internet ethernet connections.

When a classmate told Allison about the project, seeing that he already had all of the hardware, he thought he'd give it a shot. Allison taught some of the GSH students how to use a Metamorphosis, a Macintosh "Morphing" program - transmogrifying images digitally. For Allison his favorite part is the magic of it all. "Between classes I'll be here (in my dorm room) chatting with a whole science class full of students," he said, laughing. The class he is referring to is from Ames high school in Ames, IA, also GSH participants.

The Metamorphosis program can be obtained using anonymous ftp with your email address as the password: [mac.archive.umich.edu](ftp://mac.archive.umich.edu/mac/graphics/quicktime/metamorphosis1.12.cpt.hqx) with /mac/graphics/quicktime/metamorphosis1.12.cpt.hqx. He also recommends that you check out his Mosaic page at: ftp



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Brad Allison
*Junior at North Carolina
 State University*

<http://stimp.catt.ncsu.edu/users/kudzu/kudzu.html>, or <http://stimp.catt.ncsu.edu> and click your way down to him. His Mosaic page on morphing is in the projects directory and includes graphics. The "morphs" are saved in quicktime format so PC users will need special software to view them.

This year the project is expanding to include 17 schools in 11 states including: Virginia, Vermont, Utah, Tennessee, North Carolina, New York, Nebraska, Missouri, Iowa, Illinois and California. Numerous international sites will also be joining the project. The only thing stopping the schoolhouse from expanding further and faster is lack of sponsorship, even though the list of current sponsors is by no means a small one, Andreas said. For more information on the project or to sponsor a school write: Global SchoolNet Foundation, 7040 Avenida Encinas 104-281, Carlsbad, CA 92009; or call their voice mail line at: (619)931-5934; or email: gfitz@cerf.net; or fax them at: (619)931-5934.

The Windows version of CU-SeeMe, written by Steve Edgar and Rich Kennerly of Cornell, was released April 28, 1994. We couldn't wait to take a crack at it, and as it turns out, for being in alpha test the program worked amazingly well. To start with, that direct 56 kbps Internet connection is a godsend when working with CU-SeeMe because of its Internet appetite. But, you can view CU-SeeMe using a 14.4 kbps modem and a SLIP connection.

TO VIEW CU-SeeMe you will need: 1) at least a 386SX processor, 2) Windows 3.1 running in enhanced

mode, 3) Windows Sockets compliant TCP/IP stack, 4) a 256 color (8 bit) video driver at any resolution (640x480, 800x600, 1024x768, or higher), plus the CU-SeeMe software and the **msvideo.dll** file.

TO PARTICIPATE: SEND and RECEIVE CU-SeeMe you will need to add a video capture board that supports Microsoft Video for Windows, a video camera to plug into the video capture board, and an upgrade to at least a 386DX processor. Further, the 56 kbps leased line connection really is a minimum requirement if you want to transmit as well as receive.

TO BECOME YOUR OWN REFLECTOR SITE you will need a Sun Sparc with a good Internet connection. You can obtain the software by anonymous ftp using your email address for the password, **gated.cornell.edu** for the hostname, and **pub/video** for the directory. The file is **reflect.v9.tar**. To get it running, Untar the file and install as you normally would. Enter the UNIX command "reflect" and open connections to the Sun via your PC or Mac.

There are various parameters that can be implemented for your reflector site. For example if you enter the command **reflect -s** each user will receive all other video streams including their own. To restrict access to your reflector site enter **reflect -c** and only users with listed IP addresses will be permitted access to the reflector. A **reflect -r** command instructs the reflector to **respond** to another reflector site providing it with all of the video streams that it is receiving. Nothing, however, will be accepted from the secondary reflector - it is a one way transmission. There are other options available to you that can be found in the README files mentioned below. Once you are up and running be sure to respect the bandwidth limitations of the Internet in your area.

GETTING STARTED

We set out on this journey equipped with a 486/66 with a 340 meg Maxtor hard drive, using a VideoBlaster video board, that I conned out of my brother - this in fact, turned out to be the hardest part of getting CU-SeeMe up and running. (Something to note: the faster your machine, like the bigger your Internet feed, the better off you will be.) To get the program, which is free, we used

anonymous ftp with our email address for the password, **gated.cornell.edu** for the hostname, and **pub/video** for the directory. Once here both the Mac and PC versions can be found easily.

The filename for the Mac version of CU-SeeMe is: **CU-SeeMe0.60b1.bin**, with the text file: **CU-SeeMe0.60.README.2-2.txt**. The Windows version is in sub-directory **PC.CU-SeeMeW0.33b1**, with filenames: **cuseeme.zip** and **readme02.txt**. Remember that ftp is case sensitive, so be sure to type these in exactly as you see them.

After decompressing the Windows version you will have four files: **cuseeme.exe**, **cuseeme.hlp**, **readme.txt**, and **msvideo.dll**. The first thing you should do is actually read the **readme.txt** file, we did and were glad that we had because among other things, it mentions that many video cards will already have Microsoft Video for Windows installed which contains a copy of the **msvideo.dll** file. The help file warns that having two of these **msvideo.dll** files can screw things up, it did, and you should delete the **msvideo.dll** file if you already have one too.

Doing this we were able to install the software relatively easily, basically just run **cuseeme.exe** from Windows, and we were soon looking at live video over the Internet - just that easy. Well, it wasn't really that easy. At first our machine decided that the VideoBlaster video card that was clearly visible with the lid off of the machine didn't really exist. We corrected the problem by backing out of Windows and using the reset button on the machine, NOT CTRL+ALT+DELETE, and then bringing up the **vblaster** directory from the DOS prompt. We ran **vbtest** and presto, when we went back into Windows the machine didn't have any trouble discovering the video card. This seemed to be a peculiarity of our VideoBlaster card.

One potential stumbling block that we didn't encounter, but you might, is that of having a designated "hostname." Currently the program requires a hostname to get it going, that may change in the near future, but for now the quickest way to get a hostname designated for your system is to go to the directory that contains your Windows Sockets Stack and make an entry into the host's file. The entry would look something like: "your IP address" "name for your system" or **123.45.67.89 Boardwatch**.

Once installed maneuvering is rather intuitive and shouldn't offer any problems for the average user. You will need the address of a CU-SeeMe reflector site to start video conferencing - some addresses will be included in the software you ftp. Cornell, NASA, and the Jet Propulsion Laboratories in Pasadena, CA, all maintain reflector sites.

Users also have the option of subverting a reflector site and connecting directly to each other - providing they both have the necessary software, hardware and at least one IP address to connect to. But it will just be the two of them, to really join in the game you must connect to a reflector.

CU-SeeMe was written with Microsoft Visual C++, and yes, source code for at least one version of the program will be made available sometime this summer.

For more information about CU-SeeMe, it is highly recommended that you both obtain and read the ReadMe text files from Cornell, and subscribe to their frequently updated mailing list which keeps users apprised of improvements and helpful hints when using the software. To subscribe to the automated mailing list send a single line message containing: **SUBSCRIBE CU-SEEME-L YOUR FIRST AND LAST NAME to: listserv@cornell.edu** - be sure to actually type in your name. If you would like to send mail to the list: **cu-seeme-l@cornell.edu**, note mail sent here may be redistributed.

This software is the first rumblings of what is sure to be a ground shaking, frontier breaking technology. Things to look for in the future of CU-SeeMe is audio for the PC, a defined plug-in interface, and color images. After conversing with several other desktop broadcasters there is one overwhelming conclusion - it is addicting. But perhaps the most enticing quality of this program is that it is here - NOW, and it's free. Be seeing you on the 'net.

MICROSOFT FTP SITE

Microsoft now has a UNIX System V FTP site available at **ftp.microsoft.com** or **gowinnt.microsoft.com**. The system provides a wealth of product update files, documents, updated drivers, utilities, documentation, and Knowledge-Base articles about Microsoft products. The system

is organized into a series of subdirectories:

Softlib: Software Library tree containing a subtree for the Microsoft Software Library files which contains drivers, patches appnotes and other support files from Microsoft Product Support.

Advsys: Advanced Systems directory tree containing subtrees for information pertaining to LanMan, WinNT, MsMail, & SQLServer.

Deskapps: Desk Top Applications directory tree containing subtrees for information pertaining to all Microsoft Applications such as MS Word and Excel.

Developer: Developer directory tree containing subtrees for information pertaining to all Microsoft development tools and Languages.

Peropsys: Personal Operating Systems directory tree containing subtrees for information on all Microsoft operating systems including Windows and Windows NT.

MSFT: Microsoft shareholder information.

For example, in **/peropsys/WIN3X** we found the file **WIN31.EXE**. This turned out to be a help file with a series of technical notes for Windows 3.1. It also included a series of updated .DLL files.

MIME COMPLIANT INTERNET GATEWAY FOR cc:MAIL

International Messaging Associates (IMA) has introduced gateway software allowing cc:Mail users to transfer e-mail messages over the Internet. The new software, Internet Exchange for cc:Mail, features multitasking capability and is the first cc:Mail to SMTP gateway to full support the Multipurpose Internet Mail Extensions (MIME) standard.

Internet Exchange for cc:Mail allows the transfer of all types of information that can be stored in a Windows file including audio, images, diagrams, and text. The Windows-based System Manager provides a simple view into gateway operations, and allows dynamic modification of configuration parameters during

normal operations. In addition, MIME encoding methods can be configured in a per-file-extension basis.

Messages can be simultaneously encoded, decoded, sent and received. Additionally, Internet Exchange supports multiple concurrent SMTP sessions. The gateway software can use any combination of DNS, host table, and default host-based routing, including mail routing using MX-records on the Internet. Consequently, the gateway can act as a full Internet mail router, eliminating the need for additional UNIX or equivalent systems to handle routing.

Internet Exchange runs under MS-DOS 5.0 or greater with Windows 3.1 and Lotus cc:MAIL VIM 2.0 or higher. The product requires an IBM PC compatible computer with at least a 386 microprocessor, 4 MB of RAM and 200 MB of disk space. The drawback? IMA is enormously proud of the product with a price tag of **\$3395** - which doesn't include a one year technical support contract priced at an additional **\$695**. Good work if you can get it. International Messaging Associates, 139 Mitchell Avenue, Suite 102, South San Francisco, CA 94080; (415)871-4045 voice; (415)871-7392 fax; Internet: **info@ima.com**.

VERSION 3.00 OF PERSONAL INTERNET MAIL PROCESSOR FOR TBBS RELEASED

Version 3.00 of the Personal Internet Mail Processor (PIMP) option module for TBBS was released April 15, 1994. PIMP has become one of the most popular third party programs for eSoft's The Bread Board System BBS software and is the only third party product that takes advantage of eSoft's option module interface.

PIMP operates in conjunction with TBBS to send and receive electronic mail to the Internet's DNS e-mail system, normally through an inexpensive UUCP dialup link. PIMP uses any available BBS line to dial out to an Internet host to exchange mail on demand as callers enter messages using the normal TBBS messaging features - including file attachments which are automatically uuencoded/uudecoded as necessary.

The new version allows TBBS/PIMP sites to service UUCP calls from

OTHER electronic bulletin boards and callers using UUCP-type software to retrieve mail and newsgroups remotely. A 64-line TBBS with PIMP can service up to 63 simultaneous UUCP sessions. In this way, the domain name system of addressing electronic mail can be both connected to the Internet, and also extended to form pyramid-style networks of bulletin boards using domain name e-mail addressing.

The new release also includes a new utility program titled the PIMP Usenet News Tosser or PUNT to sort and toss newsgroup messages to each subdomain serviced by the BBS so that each site only receives messages to the newsgroups of interest. Subdomains can address messages to **AREAS@HOST-SITE.COM** containing the list of newsgroups of interest to update their newsfeed. PUNT also pre-processes newsgroup files received by satellite in the **.BAG** format.

The new PIMP release also includes enhancements to its mailing list server function, simulation of signature files for each caller, a time grid to restrict outdial activity, and a language file structure to allow individual sites to tailor message advisories appearing in e-mail messages to various languages.

PIMP version 3.00 is priced at **\$299**. Registered users of the previous **2.xx** versions can upgrade for **\$50**. Contact Boardwatch Magazine, 8500 West Bowles Ave., Suite 210, Littleton, CO 80123; (303)973-6038 voice; (303)973-3731 fax; (303)973-4222 BBS. For information send Internet mail to: **PIMPINFO@BOARDWATCH.COM**. To join the PIMP support mailing list, send mail to **PIMPLIST-REQUEST@BOARDWATCH.COM** with the word **SUBSCRIBE** in the message body.

SIFTING THROUGH THE USENET WITH THE NETNEWS FILTERING SERVICE

by Kevin Savetz

The Usenet is the world's largest distributed bulletin board system, shared by millions of people using hundreds of thousands of computers scattered along the Internet highway. At last count, there were over 7,000 Usenet "newsgroups," or discussion topics, covering every subject imaginable. Folks on the Usenet talk about everything -everything! - you can think

of, from square dancing to motorcycle maintenance... from the Swedish Chef to Ronald Reagan.

With so much going on on the Usenet, it had been impossible to keep abreast of it all. The best you could do was pick out the newsgroups that most interested you, read them as regularly as possible, and try not to let the ever-prolific Usenet keep you away from more important things, like regular meals. The biggest problem was you couldn't search all the newsgroups at once for the information that most interested you. This changed in February with the introduction of the Stanford Netnews Filtering Service, the niftiest Internet hack in... well, in at least a month.

HOW IT WORKS

The Stanford Netnews Filtering Service is a tool for creating personalized delivery of Usenet news. You subscribe to the service by establishing profiles describing your interests. The Filtering Service scans the vast quantity of goodies posted each day to the Usenet and e-mails you articles containing information you are interested in.

The best part is that this automated program searches ALL newsgroups (all those available at **stanford.edu**) for interesting articles. For instance, if you're interested in UFOs, and a conversation about them should pop up in the newsgroup **alt.fan.laurie-anderson** (an altogether unlikely place for such a conversation, admittedly) the filtering service will ensure you won't miss out, even if you don't normally read about Laurie Anderson.

Profiles are simple to set up - just feed the filter plain English text, without boolean ANDs, ORs, or NOTs. For instance, you might search for "object-oriented programming" or "nba golden state warriors basketball." Based on the statistical distributions of the words in articles posted to Usenet, each article is scored to evaluate relevance to your profile. Articles deemed to be interesting to you are e-mailed to you.

The service is rather robust; after you receive useful articles, you can feed the best ones back to the service to improve its search strategy. You can also adjust the frequency of delivery, the volume of articles and the length of your subscription to each profile.

A TRUE STORY

The following story is true. Only the names have been changed to protect the guilty. Once I discovered the Filtering Service, I entered a search for "Negativland" (an alternative music group out of Berkeley.) I try to keep up with Negativland's exploits by reading **rec.music.alternative**, but frankly, nothing else on that newsgroup interests me at all. So I told the filtering service to look for articles about Negativland, set the search time limit for the rest of eternity, and happily waited. The following morning, two articles mentioning Negativland arrived in my e-mail box. With a spring in my step, I unsubscribed from **rec.music.alternative**, content in the knowledge that I would remain informed about Negativland.

So far, so good. For my next trick, I started a news filter on the word **Savetz**, my own last name. Throwing modesty to the wind, I decided that if anyone was talking about me, I ought to know about it.

It seems there's an obscure newsgroup called **air.unix**. Its distribution is limited to a few computers on the second floor of Sweet Hall at Stanford University. It also seems that the Usenet Filter, since it lives at Stanford, can see **air.unix** and filter its articles, even though I, being a non-Stanford person, cannot. And, it seems that indeed, someone there was talking about me.

A woman at Stanford posted a message on **air.unix** asking how to send a fax from the Internet. Another soul, ever-helpful (although misguided about U.S. copyright law), posted to the newsgroup the entire text of an article about Internet faxing that I wrote for the December issue of Boardwatch. He typed the entire 1,400-word article in himself - I can only suppose to impress the woman who asked the question in the first place.

The Usenet Filter dutifully perused the article, found my name therein, and e-mailed it to me. To make a long story short (is it too late?) I told the **air.unix** folks a little about copyright law and gave them even more information about sending faxes from the Internet. I also told them about the Stanford Usenet Filtering Service, and explained that I had found their article because it contained my name. Were they grateful? Apparently not.

The next morning, I discovered that the filtering service was sending me lots of articles that I didn't care about at all. They didn't seem to be about Negativland and they didn't seem to mention me. This threw me for a loop, until I realized that every post from one of those wacky **air.unix** readers concluded with a phrase like "This line is just here so Kevin Savetz has to read this message." Ouch. Final score: Stanford, one. Me, zero.

There are two morals to this story. First, don't tell anyone if you use the filtering service to look for your own name. Second (and more importantly) please use the Internet only for good, not evil.

TO ACCESS THE SERVICE...

You can access the service from Mosaic: <http://woodstock.stanford.edu:2000>

The service also supports e-mail access. To get the instructions on the e-mail interface, send a message with the word "help" in the message body to netnews@db.stanford.edu

Here is an example to give you some ideas of how the service works. Say you subscribe to the service with the profile "online information services." Then periodically you will receive e-mail messages like this:

Subscription 1: online information services

Article: misc.activism.progressive.11965
From: hn0003@handsnet.org
Subject: HandsNet WEEKLY DIGEST 1/15-21
Score: 84

First 15 lines:
HANDSNET WEEKLY DIGEST January 15-21, 1994
News from HandsNet's Information Forums HandsNet is a national, nonprofit network connecting organizations working on social and economic justice issues. Members use HandsNet to make new contacts, work collaboratively and to find and publish information, news....

Article: ca.politics.38420
From: rlm@helen.surfcty.com (Robert L. McMillin)
Subject: GOV-ACCESS #5:Cal.Emergency Svcs.online + Net-fax + MINN Pub
Info Net
Score: 82
First 15 lines:
Jan. 22, 1994
CALIFORNIA OFFICE OF EMERGENCY SERVICES INFO AVAILABLE ONLINE
<a recent exchange of messages>
The state Emergency Digital Information Service is working fine Telnet to telnet oes1.oes.ca.gov 5501

[Kevin Savetz (savetz@rahul.net) is a computer journalist living in Arcata, California. His first book, *Your Internet Consultant: the FAQs of Life Online* will be on bookshelves in June.]

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1994

Readers' Choice BBS Contest

Boardwatch Magazine is sponsoring the Third Annual Readers' Choice BBS Contest to find the 100 most popular bulletin board systems in North America - and the ONE BBS most popular among callers. The contest will run from January 1, 1994 through June 30, 1994. Winners will be announced at the **Online Networking Exposition and BBS Convention** (ONE BBSCON) held in Atlanta, Georgia, August 17-21, 1994. The Boardwatch 100 list will be published in subsequent issues of Boardwatch Magazine and distributed in electronic form world-wide.

PRIZES FOR VOTERS

All valid ballots submitted by voters will be entered in a random sweepstakes drawing. As of the opening date of this contest, prizes include five U.S. Robotics Courier Top of the line Modems, five Hayes OPTIMA 288 V.FC + FAX modems, and five ZyXEL Top of the line modems - and more are on the way. A minimum of 15 valid ballots will be selected from all entries and each will receive a free modem - from the most popular modem manufacturers in the world.

RULES FOR CALLERS

Each voter can vote once, for a single bulletin board system. Each ballot must be **fully completed**, and individually mailed by each voter. We will verify ballots as necessary. There are three ways to vote:

1. Complete this ballot and mail to: BOARDWATCH MAGAZINE, READERS' CHOICE BBS CONTEST, 8500 W Bowles Ave, Suite 210, Littleton, CO 80123.

2. Complete this ballot and FAX to **(303)933-0876**.

3. Or, dial the Boardwatch BBS at **(303)973-4222** and complete the online ballot provided on the main menu.

Balloting closes at 23:59:59 on June 30, 1994.

This contest is not limited to Boardwatch Magazine subscribers, and no purchase is required to participate in this contest. Reasonable facsimiles of this ballot are acceptable, so long as all specified information is included.

Title of bbs you vote for as the BEST: _____

Primary BBS access telephone number: _____

Is this BBS a long distance or toll call for you? ☐ YES ☐ NO

Voter name: _____ Voice telephone number: _____

Street address: _____

City: _____ State: _____ Zip code: _____

Primary communications software you use: _____

Primary modem manufacture and model: _____

Highest speed your modem supports: ☐ 1200bps ☐ 2400bps ☐ 9600bps ☐ 14400bps ☐ 19200bps ☐ 28800bps

Operating system: ☐ DOS ☐ OS/2 ☐ WINDOWS ☐ MAC ☐ AMIGA ☐ UNIX ☐ OTHER

Estimated BBS calls you make per month: _____ Average call duration: _____

Estimated investment in hardware and software: \$ _____

Primary online interest (check all that apply): ☐ Mail/Mail Conferences ☐ Games/Entertainment ☐ Chat/Social ☐ News/Information
☐ Shareware (Files)

Do you also maintain accounts on commercial services? ☐ AOL ☐ Compuserve ☐ Delphi/BIX ☐ GEnie ☐ Prodigy ☐ None

AGE: _____ SEX: ☐ MALE ☐ FEMALE:

SIGNATURE: _____ DATE: _____

Modem Watch

BBS Discount Prices

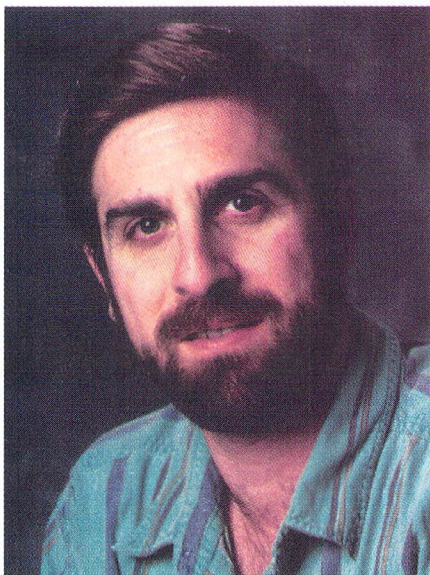
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VENDOR	MODEL	LIST	SYSOP	BBS	VOICE	FAX
AT&T Paradyne	Dataport 14.4/Fax	\$329	\$165	813-532-5254	813-530-8276	813-530-2398
ATI Technologies	14400 ETC-E	\$219	\$149	905-764-9404	905-882-2600	905-882-2620
Cardinal Technologies	9600V42 V.32	\$349	\$219	717-293-3074	717-293-3000	717-293-3104
Cardinal Technologies	14400V42 V.32bis	\$449	\$249	717-293-3074	717-293-3000	717-293-3104
Computer Peripherals	Viva 9624e V.32	\$349	\$249	805-499-9646	805-499-5751	805-498-8306
Digicom Systems	ScoutPlus V.32bis/Fax	\$289	\$138	408-262-1412	408-262-1277	408-262-1390
Digicom Systems	MacScoutPlusV.32bis/Fax	\$299	\$145	408-262-1412	408-262-1277	408-262-1390
Digicom Systems	Connection 144DF+FAX V.32bis	\$199	\$99	408-262-1412	408-262-1277	408-262-1390
Digicom Systems	ScoutPlusTerbo V.32 Terbo/Fax	\$329	\$164	408-262-1412	408-262-1277	408-262-1390
Galaxy Networks	UFO V.32bis	\$999	\$299	No BBS	818-998-7851	818-998-1758
GVC Technologies	FM-9696/144V V.32bis	\$689	\$413	201-579-2380	201-579-3630	201-579-2702
GVC Technologies	SM-96V V.32	\$599	\$329	201-579-2380	201-579-3630	201-579-2702
Hayes Microcomputer	Optima 288 V.FC + Fax	\$579	\$288	404-446-6336	404-840-9200	404-449-0087
Hayes Microcomputer	Ultra 144 V.32bis	\$999	\$249	404-446-6336	404-840-9200	404-449-0087
Hayes Microcomputer	Optima 144+Fax	\$519	\$179	404-446-6336	404-840-9200	404-449-0087
Hayes Microcomputer	ISDN System Adapter	\$1199	\$450	404-446-6336	404-840-9200	404-449-0087
Image Communications	Twincomm 9600 V.32	\$299	\$279	No BBS	201-935-8880	201-935-6548
Intel Corporation	14.4EX V.32bis	\$549	\$269	503-645-6275	503-629-7000	503-228-9707
Intel Corporation	9600EX V.32	\$599	\$299	503-645-6275	503-629-7000	503-228-9707
Microcom	DeskPorte FAST	\$499	\$249	617-255-1125	617-551-1000	617-551-1988
Microcom	TravelPorte FAST	\$499	\$249	617-255-1125	617-551-1000	617-551-1988
Microcom	DeskPorte ES 14.4 V.32	\$239	\$139	617-255-1125	617-551-1000	617-551-1988
Multi-Tech Systems	MT932BA V.32	\$869	\$435	612-785-9875	612-785-3500	612-785-9874
Multi-Tech Systems	MT1432BA V.32bis	\$899	\$450	612-785-9875	612-785-3500	612-785-9874
Practical Peripherals	PM14400FXSA V.32bis	\$549	\$250	805-496-4445	805-497-4774	805-374-7202
Practical Peripherals	PM14400FXMT V.32bis	\$299	\$155	805-496-4445	805-497-4774	805-374-7202
Supra Corporation	SupraFax V.32bis	\$399	\$149	503-967-2444	503-967-2400	503-967-2401
Telebit Corporation	T3000 V.32bis	\$949	\$399	408-745-3861	408-734-4333	408-734-3333
Telebit Corporation	WorldBlazer	\$1049	\$429	408-745-3861	408-734-4333	408-734-3333
Telebit Corporation	QBlazer V.32bis	\$549	\$299	408-745-3861	408-734-4333	408-734-3333
U.S. Robotics	Courier DS V.32 terbo Fax	\$1295	\$399	708-982-5092	708-982-5010	708-982-0823
U.S. Robotics	Courier V.32 terboFax	\$695	\$299	708-982-5092	708-982-5010	708-982-0823
Ven-Tel	EC96 V.32	\$699	\$439	408-922-0988	408-436-7400	408-436-7451
ZyXEL	U-1496 +V.32bis	\$749	\$499	714-693-0762	714-693-0804	714-693-0705
ZyXEL	U-1496E+V.32bis	\$499	\$349	714-693-0762	714-693-0804	714-693-0705
ZyXEL	U-1496E V.32bis	\$349	\$249	714-693-0762	714-693-0804	714-693-0705
Zoom Telephonics	VFX V.32bis/Fax Int	\$179	\$99	617-423-3733	617-423-1072	617-423-9231
Zoom Telephonics	VFX V.32bis/Fax	\$199	\$119	617-423-3733	617-423-1072	617-423-9231
Zoom Telephonics	VFX V.32bis/24K/Fax	\$269	\$119	617-423-3733	617-423-1072	617-423-9231

The above quoted prices are for purchase by qualified Sysops only. Public purchases are retail prices, and are not available through Boardwatch Magazine.

BOOKS, BULL, AND THE BRAVE NEW WORLD

by Harley Hahn and Wendy Murdock



There are lots of books, real books, stored electronically on the Internet. These are books that you can download and read whenever you want. Sounds great, doesn't it? Except that hardly anyone actually uses the Internet to read books. Indeed, hardly anyone actually uses a computer to read books. To appreciate why this is so, we need to understand the answers to two important questions: (1) Why do you never see advertisements for scissors? and (2) Why is it a bad idea to buy a cheap stereo to listen to music?

To start, though, let's consider my statement that few people use the Internet to download and read books. Are you tempted to disagree? Tell me this: Have you ever used a computer system — any computer system — to read an entire book? Do you even KNOW anyone who has ever used a computer to read an entire book? Do you know anyone who knows anyone who has ever...? Well, you get the idea. The Internet has lots of books, interesting books, available to read whenever you want, but we bet you a cookie you can't find anyone who has ever downloaded and read an entire book.

Are we saying that it is a waste of time and disk space to archive books on the Internet? No, not at all. What we are after here is something more deep and fundamental: As a general rule, people do not want to read books on a computer screen. This is not really a

matter of deduction or even of opinion; it is a demonstrated fact. Although books are distributed in machine readable format (via gopher or ftp or even CD-ROM), few of us would care to trade in our paper and cardboard books for a computerized alternative.

Although the technology has existed for some time to distribute just about any book electronically, it is obvious that we, as a culture, choose not to do so. Walk into any bookstore or library and what you see is paper. Even in universities, where Internet access is common and know-how is abundant, it is rare to encounter someone reading a book by computer.

Electronic text has certain undeniable advantages: you can distribute it inexpensively; you can duplicate it virtually for free; and you can use computer programs to process the text (say, to analyze word counts). Moreover, when you read electronic text, you can search for patterns, jump from one place to another, and insert as many electronic bookmarks as you want. Should you be so inclined, you can even change the text to suit yourself.

Still, the advantages of real paper are undeniable and compelling. You can read a book whenever you want, wherever you want. And when you do, the quality is much higher: even the cheapest paperback is significantly easier on the eyes than the text on a computer screen. When you read a real book, you can see two pages at once. When you read a computer screen, you can only see as many lines as will fit on the screen (or in your window). And, no matter what anyone tells you, computer screens flicker. Even if you can't see the flicker (because it is too fast), your mind does and you will soon tire of reading page after page of computerized text.

Shall we go on? Printed books are designed according to well-established principles to make them easy to read, page after page; nothing substitutes for being able to flip the paper back and forth as you scan clumps of words or images. Books are easy to hold in your lap as you curl up in a comfortable chair, sit up in bed, ride a bus, or (in California) soak in a hot tub.

Project Gutenberg, founded by Michael Hart in 1971, has the goal of making many books available electronically, for free. On the Internet, you can access these books via a gopher, anonymous ftp or the world wide web. Check

out these archives and you will find well over 100 different books available for downloading. (At the time we wrote this, there were 120.) Some of them are well-known classics such as Mark Twain, Charles Dickens, Shakespeare, Jules Verne, Conan Doyle and so on. Others are lesser known works of fiction. There are also reference books — like the CIA World Factbook, U.S. Census Data, a Roget's Thesaurus — as well as great works of literature that are crucial to Western culture: the Bible, the Book of Mormon, "Surfing the Internet" by Jean Armour Polly, and Bill Clinton's Inauguration Speech. And, for some odd reason, Project Gutenberg also archives a few esoteric items such as "The First 100,000 Prime Numbers", "The Number 'e'", "Pi" and "The Square Root of Two".

Hart has quantified his goals: By the end of the year 2001, he wants Project Gutenberg to have created and distributed 10,000 of the "most used books" in electronic format. In his words:

"Our goal is to... reduce the effective costs to the user to a price of approximately one cent per book, plus the cost of media and of shipping and handling. Thus we hope the entire cost of libraries of this nature will be about \$100 plus the price of the disks and CD-ROMs and mailing."

Is this farfetched? Well, maybe, but that's not the point. Project Gutenberg already has over 100 books online so, even if they don't make the 10,000 book goal by 2001, there will be plenty of free material available. No, the point is, do we really want all of this? The answer is, yes, but not in the ways you might expect.

No doubt there are many, many instances of people downloading copies of these books. But we would like to ask, how many of these people actually read the books? We believe that such resources attract two types of people. First, there are users who need the text of a book for a specific, narrow reason. For example, someone may want to quote a passage from a novel. Or, a researcher may need the text of a book to analyze using a computer program (say to count certain words or to create a concordance). Or, an English teacher may want to distribute copies of certain poems to his students. Or, someone in the middle of a task may suddenly find himself with the need for a certain bit of reference material such as U.S. Census data, or the first 1000 digits of pi. Or, a romantic person may want to download

a sonnet by Shakespeare to email to a loved one (or potential loved one). At such times, a resource like Project Gutenberg books is invaluable, as it quickly gives you the information you need in a format that is easy to manipulate.

The second type of person who would download a book is the fanatic: someone who really, really likes one book (or set of books) and would actually have the patience to read the whole thing on a computer screen. For example, let's say that as a kid, your grandmother used to read you "Peter Pan". One day, you happen to be browsing through the Project Gutenberg books and you see "Peter Pan". Shazam, you say to yourself, and you

download the text and read it, revelling in the memories of those simpler times when grandmothers would read stories as we fell asleep. Most of the time, though, we would expect that the fanatics would already have copies of the actual book. For example, there are many people who love Sherlock Holmes stories (including me), but such people already tend to have these stories in book form and have no need to download them. Similarly, people who are interested in reading the Bible are certain to have their own copy on the bookshelf.

A minute ago we asked if it was useful to have many books available for free in an electronic format and we said yes, but not in ways you might expect.

We think that it is easy to make a mistake when we look into the future, as we tend to see the unknown as merely a continuation of what already exists. Since books are an important part of our culture and, in certain circumstances, it is handy to have a book in electronic format, you can see how someone would jump to the conclusion that it might be great to have many, many books available on the Internet. However, like all future predictions — and this really is a prediction when you look closely — it is wrong.

We think that Project Gutenberg has the potential to turn into something wonderful. However, just what that wonderful thing might be, we confess

RESOURCES

The Project Gutenberg archives are available in various places on the Net and by various means. The principal anonymous ftp site is at:

mrcnext.cso.uiuc.edu

Change to the directory: **/pub/etext**

To find the book you want, there are two index files that you can download and examine. They are named **INDEX100.GUT** (which contains the names of the first 100 books) and **INDEX200.GUT** (which contains the names of the rest of the books). Within these files, each book is listed with the date that it was archived, along with the title of the book and the names of the file in which it is stored. Here is a typical entry:

Nov 1991 Aesop's Fables [aesop11x.xxx]

This tells us that "Aesop's Fables" is stored in a file whose name starts with **aesop11** and was archived in 1991.

The actual files are stored in a series of directories, one for each year. The files archived in 1994 are stored in a directory named **etext94**; the files from 1993 are in the directory **etext93**; and so on. In this case (to download "Aesop's Fables"), we would change to the directory named **etext91** and look for a file whose names starts with **aesop11**. If you do this, you will find two such files: **aesop11.txt** and **aesop11.zip**. The first one is plain ASCII text; the second is a zipfile (compressed format).

Aside from the primary anonymous ftp site mentioned above, the Gutenberg archives are mirrored at various other places on the Internet. One such site is: **etext.archive.umich.edu**

Once you connect, change to the directory:

/pub/Gutenberg

You will find the same Gutenberg files and directories as in the original archive.

This anonymous ftp site is a fascinating place to check out. It is maintained by Paul Southworth as a general Internet repository for electronic text of all types and you will find a lot more than the Project Gutenberg files. For online books and various other of types of electronic text, you can look in the following directories:

/pub/Fiction /pub/Libellus /pub/Quartz/etext /pub/Religious.Texts /pub/WELL/Publications /pub/Zines

As with most such archives, you can explore this one by gopher as well as via anonymous ftp. Use the command: **gopher etext.archive.umich.edu**

A useful strategy is to connect via a gopher to explore and find what you want. If you find some-

thing that is large (like a book), you will probably save time by quitting the gopher and downloading the actual files via anonymous ftp.

Aside from the directories mentioned above, this archive site has many other areas of interest. For example, there are mirrors of the popular archives at Quartz (under **/pub/Quartz**) and the WELL (under **/pub/WELL**). Each of these archives contains a marvelous variety of files and resources. If you want to connect to Quartz or the WELL ("Whole Earth Lctronic Link") directly, you can use:

**gopher quartz.rutgers.edu ftp
quartz.rutgers.edu gopher gopher.well.sf.ca.us**

While you are at the **umich** site, you may also want to check out the textual archives for two interesting collections of information. First, the Queer Resource Directory (homosexuality and so on) can be found in the directory named: **/pub/Politics/QRD**

With a gopher, choose **Politics** from the main menu and then choose **QRD**.

Second, the Computer Professionals for Social Responsibility maintain a large archive under the directory: **/pub/CPSR**

With a gopher, choose **CPSR** from the main menu. The CPSR archive is also a mirror. You can connect to the original archive by either via gopher or anonymous ftp:

gopher sunnyside.com ftp sunnyside.com

The Spunk Press archives that we discussed in this article, are also stored at the same **umich** archive site. Use one of the commands:

**ftp etext.archive.umich.edu
gopher etext.archive.umich.edu**

Via anonymous ftp, change to the directory:

/pub/Politics/Spunk

With a gopher, choose **Politics** from the main menu, and then choose **Spunk**.

Three other places to look for books are the Online Book Initiative, the Wiretap archive, and the Oxford Text Archive. To connect to the Online Book Initiative via gopher, use: **gopher obi.std.com**

From the main menu, choose:

OBI The Online Book Initiative

To get at the books, you then choose:

The Online Books

Via anonymous ftp, use: **ftp obi.std.com**

and change to the directory: **/obi**

To connect to the Wiretap archive, use:
gopher wiretap.spies.com

From the main menu, choose:

Electronic Books at Wiretap

Via anonymous ftp, use: **ftp wiretap.spies.com**

and change to the directory: **/Library/Classic**

The Oxford Text Archive (based in Oxford University in England), offers a large number of books and articles, many of which are of a scholarly nature. However, there are a good number of standard classics. This service is available from many gophers around the world. (Use veronica to search for "oxford text".) To access the archive directly, you can use anonymous ftp:

ftp ota.ox.ac.uk

Change to the directory: **/ota**

For general information about the archive, read the file: **textarchive.info**

For a list of what is available, download the file:

textarchive.list

The Oxford Text Archive maintains books in a number of languages. The books in English can be found in the directory: **/ota/english**

As you might imagine, there are many more sources of books on the Internet than the ones we have mentioned. To find such items in gopher-space, use veronica. For example, to find alternate sources for the Project Gutenberg archives, you can search for **gutenberg**. To hunt for books in general, try looking for **electronic books**.

Finally, if you are interested in reading about TeleRead, you can get information via anonymous ftp from: **ftp.utdallas.edu**

Look in the directory: **/pub/staff/billy**

for files relating to TeleRead. In particular, the file that contains the massive TeleRead proposal is named **teleread.doc**. If you want to get the proposal via gopher, use: **gopher cosn.org**

From the main menu, choose:

Networking Information

Then choose: **Reference**

And finally: **TeleRead Proposal**

If you are sufficiently impressed by the proposal that you would like to contact David Rothman (Mr. TeleRead) himself, you can write him at:

rothman@netcom.com

we do not know. In retrospect, we can look back at all the Internet projects and try to understand why things happened the way they did. For example, it seems obvious now why anonymous ftp and gopher became so successful but, wais or prospero, for example, did not. Or, we might try to explain whyarchie (which finds anonymous ftp items for us) is very popular and works so well, while veronica (which finds gopher items for us) is only somewhat popular and doesn't work nearly as well.

Still, it is impossible to predict in advance which services will become useful and popular. What usually happens is that someone gets a good idea, works hard to make it available as a tool to the Net and, over a period of time, the tool is either widely accepted or not. The interesting thing is that the tools that do become popular generally undergo some sort of metamorphosis and are shaped, little by little, into something different from the original intentions of the inventor.

Thus, although Project Gutenberg — or at least the idea of electronic text — may become important, we are sure that it will be something different than simply making regular books available for downloading. For one thing, the projections of Michael Hart are overly optimistic: we seriously doubt that by the year 2001 we will see 10,000 regular books offered for free on the Internet. What we will have, we can't tell you, but if Project Gutenberg still exists in 2001, it will necessarily grow into something else. One thing that may give us a clue as to the Shape Of Things To Come is to ask, what is the most popular item in the Project Gutenberg library? Real statistics are hard to come by but it looks like the most oft-downloaded work is the above-mentioned "Surfing the Internet", by Jean Armour Polly. As a downloadable item, this work regularly "outsells" all the other books, including the Bible. And when you stop to figure out what is happening, you see that "Surfing the Internet" has three important characteristics: first, it is free; second, it is short; and third, it is not available in printed form.

This brings us back to one of the questions that we asked when we started: Why do you never see advertisements for scissors? Every day, we are all inundated with ads from people trying to sell us something. But, you will notice, that you never see advertisements for items that are so useful that

their need is obvious. This is why you will never see an ad that tries to convince you that you need a pair of scissors, or paper, or water. Some things are just so important that you don't need anyone to convince you to use them. Similarly, when new Internet tools and resources arise that demonstrate a compelling need, no one needs to sell the idea: it becomes popular on its own. Electronic versions of printed books just do not fall into this category.

The big problem with putting books online is that the copyright for just about every popular book is owned by someone, and most owners will not allow you to make their books available for free. What this means is that the selection of online books is always going to be highly limited. Project Gutenberg solves this problem by using books in the public domain (such as Shakespeare, the Bible, and so on), or books that were designed for mass distribution (like Jean Polly's). An alternative organization, called Spunk Press, is trying a different approach.

Spunk maintains an ftp site on which they make available a variety of works in electronic format: not only books, but magazines, zines, articles and so on. Rather than depending on recognized books whose copyrights are in the public domain, Spunk solicits and makes available original work by authors who wish to distribute their writing as widely as possible, not only on the Internet but throughout the BBS world.

Spunk was started by a handful of people at the end of 1992, and is run (via a mailing list) by an editorial collective. To quote from their "manifesto":

"The policy of Spunk Press is to act as an independent publisher of works converted to, or produced in, electronic format and to spread them as far as possible on the Internet and in the BBS society free of charge... The major interest of Spunk Press is alternative literature and anarchist material, both old, converted, and newly produced."

As the manifesto states, Spunk Press publishes "alternative" material, often with a politically leftist tilt. So, unlike Project Gutenberg, where you will find Peter Pan and the Wizard of Oz, within the Spunk archives you are more likely to encounter the likes of Emma Goldman, Bernard Shaw and Henry David Thoreau, as well as

numerous contemporary political authors.

Aside from the question of which books will be available to read electronically, we might also think about how such books are to be read. So far, we have assumed that all our reading will be done using a computer screen. Through the years, there have been various schemes to create special hardware specifically for reading electronic books. Perhaps the earliest such idea that was taken seriously was the well known "Dynabook", described by Alan Kay in his Master's thesis over 20 years ago.

At the time, the dream of a small electronic book was far beyond the existing hardware: the necessary computer memory, storage media, and display screens just did not exist. Kay was hired by Xerox to work at their Palo Alto Research Center (Xerox PARC) in order to develop Dynabook technology. We remember visiting the center in the late 1970s, meeting Kay, and being shown an early version of the Dynabook. At the time, it was the size of a small filing cabinet and used Smalltalk (the first object-oriented computer system), a mouse (one of the first ever used), and a screen that displayed windows (the first windows ever used).

Since then, a number of people and companies have proposed variations on this theme, some of which have actually been marketed. The holy grail of all this activity is a device small enough to carry around — perhaps the size and shape of a real book — that would allow you to read many different books, one page at a time, on a built-in screen.

One of the current proposals floating around the Internet is from David Rothman who describes a device that he calls a "TeleReader". The full proposal, which runs to 27,000 words, is at once ambitious and ludicrous. Rothman's idea is that the government should institute a project, called "TeleRead", that would make TeleReaders available to all Americans who want one, including all the students in the country. The text of the books themselves would be stored in a network called "TRnet". At any time, you could download a book — indeed any material at all — into your own personal TeleReader for little or no money. As Rothman explains:

"TRnet would be free or would charge modestly for an annual subscrip-

tion based on family income, and perhaps included as an option on federal tax forms. The poorest Americans, of course, should be able to dial up TRnet without paying a penny." - Right.

But what about the TeleReaders? Where do these modern Dynabooks come from? Under the TeleRead plan, the "government" would buy thousands of "small, sharp-screened computers" for schools and libraries:

"Truly mass production could slash the cost of the technology. That, in turn, would reduce the prices for ordinary consumers. Children eventually could curl up in bed with TeleReaders that cost little more than fancy calculators."

TeleRead is nothing if not egalitarian. The plan calls for a national electronic library for ALL Americans. As Rothman explains:

"Why should high tech replicate the 'savage inequalities' of our public schools? The same well-stocked database should serve Beverly Hills and Watts."

But how would the whole thing work? What could possibly induce publishers and writers to offer vast amounts of material for free (or for next to nothing) in electronic format? Rothman has that all figured out:

"Reachable from anywhere in the U.S., TRnet sooner or later could carry the full texts of virtually all new books and other material. How? Material longer than 10,000 words, and intended for publication, would have to be in digital form before the government would grant copyrights. As for material shorter than 10,000 words, scanners could pick up the images, either for conversion to computer text or as pictures to be dialed up on TRnet."

Presumably the TeleRead proposal itself — being 27,000 words — would have to be offered in digital format before Rothman could secure the copyright.

Okay, the Internet is vast and open to everyone, and silly ideas are common. But the point is that, once again, a whole system is being conjectured upon the idea that people will be content to read vast amounts of information on a computer screen. To understand why this is just not going to happen, we need to consider the second

question that we posed at the beginning of this article: Why is it a bad idea to buy a cheap stereo to listen to music?

As you probably know, turning up the volume on a stereo increases the distortion. With an expensive high-quality system, you can crank the sound up as high as you want and not hear any distortion at all. The main reason people buy such systems is not to listen to music at ridiculously high volumes, but because when you listen at regular levels, there is absolutely no distortion whatsoever. With cheap stereos, there is always distortion, even at low volumes. Although you may have trouble hearing it as such, the noise is always there and it creates what is called "listener fatigue". That is, with a cheap stereo, you get tired of listening after a shorter time and the result is that you do not use the system as much. With an expensive stereo, you can listen all day and not "fatigue" your ear.

Now, think about how you read a book. Normally, you are reading black type on a white page, with light that is reflected from the page to your eye. When you read a computer screen, the light comes from the screen itself and, even at high-resolution, the dots that comprise the characters are visible. And — whether you notice it or not — there is always a flicker, especially with screens that display dark text on a light background. (Yes, Macintosh people, we are talking to you.) All of this contributes to what we might call "reader fatigue". If you have trouble understanding what we mean, just imagine reading Moby Dick on a computer screen, one page at a time.

Consider the idea of the videophone. If you can remember back a few years, it was widely predicted (mostly by the telephone company publicists and science fiction writers) that in the "future" we would all be using videophones. All we needed to wait for was the technology. Well, the technology is here and, yes, there are videophones and, yes, just about no one wants to use one.

Similarly, we do have the technology to read books by computer (either by downloading to our computer or by reading a CD-ROM). Still, you could stand in Times Square on New Year's Eve, throw a brick, and not have to worry about hitting anyone who actually has read an entire electronic book. So maybe one day we will find that all the efforts to put as much text as possible online on the Internet will pay

WHAT'S IN A NAME?

You might be wondering about the names Gutenberg and Spunk. Project Gutenberg was named after the Father of modern printing, Johann Gutenberg (c.1400-1468). Gutenberg, a German, invented movable type, in which individual letters are arranged to form words and lines. Before Gutenberg, the only way to reproduce text was to use a solid block for each page. Somewhere around 1546, Gutenberg published an edition of the Bible, which is thought to be the first book to be printed in Europe.

The named Spunk comes from one of the children's books about Pippi Longstocking, written by the Swedish author Astrid Lindgren. In one of the stories, Pippi invents a new word, "spunk" which, as yet, has no meaning. To find out what the word means, Pippi — who lives in a small town — goes from one shopkeeper to another asking if they have any spunk. The idea is that a "spunk" can be anything you like. This concept appealed to the founders of Spunk Press who, as part of their research, found that the word "spunk" already had interesting and complimentary meanings in several languages. For example, in Australian, a "spunk" is an attractive person.

off but, as we explained earlier, in unexpected ways. So let's get real. Printed books are easier to use, a lot more convenient and, well, more romantic. Computers just don't hack it.

Remember the mystery and intimacy of hiding under your covers as a kid, with a flashlight and a forbidden book, reading past your bedtime and hoping that the shadows on the wall would not give you away? Can you imagine hiding under those same covers with a Dynabook or a TeleReader? There is something compelling about real books with pages that we can turn, fold down, bend, and write on. Books are an extension of our eyes and our minds and — as we humans have demonstrated repeatedly — electronic books will not suffice. After all, Moby Dick is hard enough to read on paper.

[Harley Hahn is an internationally recognized author, consultant and analyst. His books include: The Internet Complete Reference, The Internet Yellow Pages and a Student's Guide to UNIX.]

Wendy Murdock is an artist, writer, and Internet veteran specializing in creative art forms including BBSs and MUDs.]

INTERNET UUCP Host List

BBN Technology Services NEARnet 10 Moulton Street Cambridge, MA 02138 Voice# (617)873-8730 Fax# (617)873-5620 (internet) nearnet-join@nic.near.net	\$2,890 year \$1,000 registration fee	IMS Intercom 6418 Symposium Clinton, MD 20735 Voice# (301)856-2706 Fax# (301)856-5974 BBS# (301)856-0817 (internet) led@imssys.com	\$20 month \$30 Connect fee
CICNet 2901 Hubbard Street Ann Arbor, MI 48109 Voice# (313)998-6103 Fax# (313)998-6105 (internet) info@cic.net	\$35 month \$2.50 hour prime time \$2 hour non prime time \$175 registration	InfiNet Infinite Systems PO Box 02138 Columbus, OH 43202 Voice# (614)268-9941 BBS# (614)268-3639 (internet) info@infinet.com	\$15-45 month \$15 month flat rate
Clark Internet Services 10600 Route 108 Ellicott City, MD 21042 Voice# (800)735-2258 Then Give the following # (410)730-9764 Fax# (410)730-9765 Data# (410)730-9786 (internet) info@clark.net	\$30 month \$264 annual \$25 registration	InterAccess 9400 W. Foster Ave Suite 111 Chicago, IL 60656 Voice# (708) 671-0111 Fax# (708) 671-0113 (internet) info@interaccess.com	\$5 month \$2.20 hour \$50 registration
CNS Internet Express 1155 Kelly Johnson Blvd. Suite 400 Colorado Springs, CO 80920 Voice# (719)592-1240 (800)748-1200 Fax# (719)592-1201 (internet) info@cscns.com	\$10 monthly minimum \$2.75 hour \$8.00 hour 800 service \$35.00 registration	ISLAND NET Victoria, BS Voice# (604)478-7861 BBS# (604)477-5163 (internet) mark@island.com	\$2.00 hour \$75.00 setup
Colorado Supernet Colorado School of Mines 1500 Illinois Street Golden, CO 80401 Voice # (303)273-3471 Fax# (303)273-3475 (Internet) info@csn.org	\$3 hour \$40 registration \$15 month minimum	Maestro Technologies 29 John St New York City, NY 10038 Voice# (212)240-9600 BBS# (212)240-9700 (internet) staff@maestro.com	\$100 month \$125 setup
CyberGate, Inc. 662 South Military Trail Deerfield Beach, FL 33442 Voice# (305)428-4283 Fax# (305)428-7977 (Internet) info@gate.net	\$20 month includes 10 hrs \$1 hour above 10 hrs \$50 setup fee	MCSNet 3217 N. Sheffield Chicago, IL 60657 Voice# (312)248-UNIX Fax# (312)248-8649 BBS# (312)248-0900 (internet) info@mcs.com	\$2.00 hour first 5 hours \$1.00 thereafter in a calendar month \$15.00 month minimum charge. \$10.00/setup
Doyle Monroe Consultants 267 Cox Street Hudson, MA 01749 Voice# (508)568-1618 Fax# (508)562-1133 (internet) info@dmc.com	Free Thirty day trial period. Variety of plans starting as low as \$5 a month, wil never exceed \$150 a month	Merit/MichNet 2901 Hubbard Pod G Ann Arbor, MI 48105 Voice# (313)764-9430 Fax# (313)747-3185 (internet) info@merit.edu	\$35 month \$40 registration
Global Connect 497 Queens Creek Rd Williamsburg, VA 23185 Voice#: (804)229-4484 Fax#: (804)229-6557	\$30 month No setup, no hourly	MIDnet 501 N Tenth Rm 124 Lincoln, NB 68588 Voice# (402)472-8971 Fax# (402)472-8486 (internet) cfarnham@unl.edu	\$60 month \$150 registration
Holonet 46 Shattuck Square Suite 11 Berkeley, CA 94704 Voice# (510)704-0160 fax# (510)704-8019 (internet) info@holonet.net	\$6 month \$2-4 hour \$50 registration	MRNet 511 11th Ave South Box 212 Minneapolis, MN 55415 Voice# (612)342-2570 Fax# (612)344-1716 (internet) dfazio@mr.net	\$55 month \$150 registration
IDS World Network 3 Franklin Rd East Greenwich, RI 02818 Voice# (401)885-6855 Fax# N/A (internet) info@ids.com	\$15 month \$80 6 months \$150 year	Neosoft, Inc 3408 Mangum Houston, TX 77092 Voice# (713)684-5969 Fax# (713)684-5922 (internet) info@neosoft.com	\$54.95 per month

INTERNET UUCP Host List

NETCOM

4000 Moorpark Avenue
Suite 209
San Jose, CA 95117
Voice# (408)554-8649
Fax# (408)241-9145
(internet) info@netcom.com

\$25 month low volume
mail \$45 month news &
mail feed. \$60 month
Telnet & FTP \$50
registration

PANIX

Voice# (212)787-6160
(internet) info@panix.com

\$2 hour
\$10 month for a user
account

RAIN

Box 2683
Santa Barbara, CA 93120
Voice# (805)899-8610
fax# (805)568-2299
Data# (805)899-8600
(internet) rain@rain.org

\$50 month
\$200 registration

The Dallas Infomart

1950 Stemmens Freeway
Suite 5001
Dallas, TX 75207
Voice# (214)746-4710
Fax# (214)746-4856
(internet) info@onramp.net

\$79 month
\$75 Registration

The Well

27 Gate 5 Road
Sausalito, CA 94965
Voice# (415)332-4335
Fax# (415)332-1669
(internet) info@well.sf.ca.us

\$35 month
\$1 hour
\$50 registration

UUNET Technologies

3110 fairview park drive
falls Church, VA 22042
Voice# (800)488-6384
fax# (703)204-8001
(internet) info@uunet.uu.net

\$36 month
\$2.60-5.60 hour

XNet

PO Box 1511
Lisle, IL 60532
Voice# (708)983-6064
BBS# (708)983-6435
(internet) info@xnet.com

\$1 hour
\$5 month minimum

ZONE 1 Network Exchange

Robert Forsythe
5800 Arlington Ave
Riverdale, NY 10471
Voice# (718) 549-8078
Fax# (718) 884-7998
(internet) info@zone.net

\$5 hour

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or

send e-mail to **info@holonet.net**

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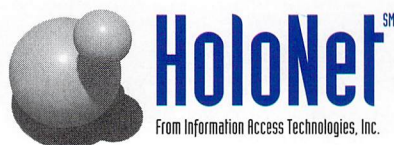
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mail and USENET conferences. UUCP service can be set-
up in less than an hour!

Domain name service (DNS) gives your board a custom
Internet address similar to "something.com". Domain
names take up to 2 weeks to be registered.

An individual HoloNet account is required before adding
UUCP and DNS service. All regular HoloNet rates apply.



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Durand Communications Network is proud to announce DC Genesys, an all new online photograph database utility capable of operating through BBS doorways.

Using the DC Genesys Database tool kit, users can develop fully relational online database applications for entertainment or business. This powerful new addition to the DCN family of database communications products can be accessed through a royalty-free terminal program for Windows™ or DOS with built-in image viewing capabilities and RIPscript compatibility. An integrated Galacticom version of DC Genesys for The Major BBS® will be released soon.

FEATURES

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- Browse to detailed view jumping.

PHOTOGRAPHS IN SECONDS

- Support for the following image formats: JPG, CMP, PCX, BMP, TIF, TGA and GIF.
- Online and Offline image viewing capabilities.

RELIABLE MULTI-USER CAPABILITIES

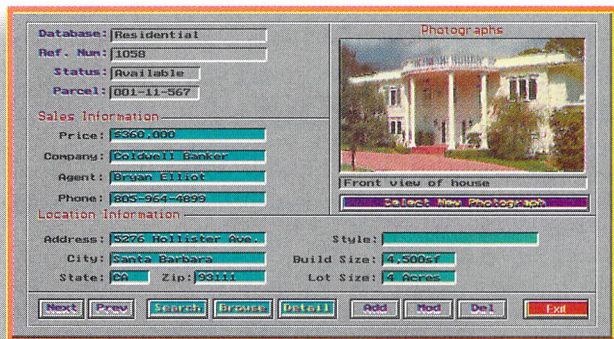
- Support for multiple users running separate copies of DC Genesys on the same computer (through DesqView) or on separate computers on a LAN network.
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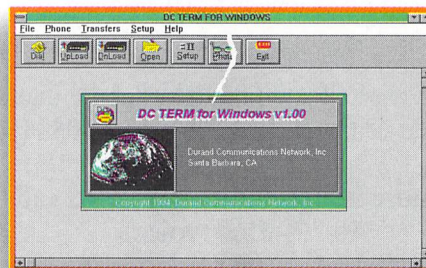
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• RealVision running under DC Genesys as seen through new DC Term for Windows.



• New Windows Terminal



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DC Term v1.0 for Windows™

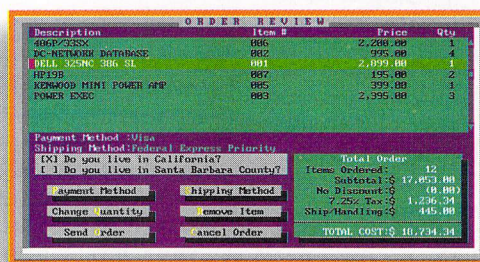
DCN announces its new DC Term v1.0 for Windows with enhanced video card support and built-in image viewing capabilities in one easy-to-use Windows terminal program.



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• Order Entry v1.1

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Images transfer in 10-15 seconds.

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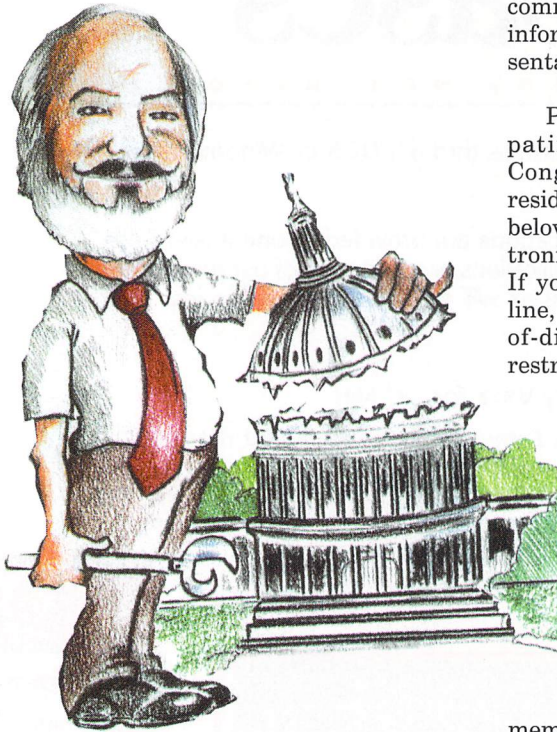
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ACCESS TO GOVERNMENT

TIDBITS FROM AROUND THE NATION

by Jim Warren

BITS OF CONGRESS NOW ONLINE



Troy Harper (tharper22@aol.com) received this response from emailing comments@hr.house.gov in April [Charlie Rose (D-NC), Chair of the Committee on House Administration, has had much to do with setting this up.]:

We welcome your inquiry to the House of Representatives Constituent Electronic Mail System. Currently, sixteen Members of the U.S. House of Representatives [out of 435] have been assigned public electronic mailboxes that may be accessed by their constituents. [Since their votes impact *all* of us, we are *all* their constituents, as emphasized by out-of-district donations.]

The results of the six month public mail pilot have been very encouraging. The nature and character of the incoming electronic mail has demonstrated that this capability will be an invaluable source of information on constituent opinion. We are now in

the process of expanding the project to other Members of Congress, as technical, budgetary and staffing constraints allow.

A number of House committees have also been assigned public electronic mailboxes. The names and electronic mailbox addresses of these committees are listed below after the information about participating Representatives.

Please review the list of participating Representatives, and if the Congressional District in which you reside is listed, follow the instructions below to begin communicating by electronic mail with your Representative. If your Representative is not yet online, please be patient. [Perhaps out-of-district donors should be equally restrained.]

[Sadly, none of the Representatives from "Silicon Valley" are thus connected to their constituents.]

INSTRUCTIONS FOR CONSTITUENTS

The list above includes the electronic mail addresses of members who are participating in the program. However, if your Representative is taking part in the project, we request that you send a letter or postcard by U.S. Mail to that Representative at the address listed above with your name and internet address, followed by your postal (geographical) address. The primary goal of this program is to allow Members to better serve their CONSTITUENTS, and this postal contact is the only sure method currently available of verifying that a user is a resident of a particular congressional district.

In addition, constituents who communicate with their Representative by electronic mail should be aware that Members will sometimes respond to their messages by way of the U.S. Postal Service. This method of reply will help to ensure confidentiality, a concern that is of upmost importance to the House of Representatives.

HOUSE OF REPRESENTATIVES COMMITTEES

[The e-addrs above were emphasized by all-caps in the original message.]

Committee on Natural Resources
1324 Longworth House Office Building
Washington, DC 20515
natres@hr.house.gov

Committee on Science, Space, and Technology
2320 Rayburn House Office Building
Washington, DC 20515
housesst@hr.house.gov

SOME OF THE STATES COMING ONLINE

A number of legislators have introduced legislation this year to open their legislative or other state information to online public access via the Internet (and thus via FidoNet, CompuServe, Plodigy, and all the other nets that are gatewayed to the Internet). Since things are moving *much* too fast for print publication, here are pointers to online advocates who can provide current details:

Washington State legislative data - Rep. Bill Finkbeiner (D-Kirkland) billfink@guest.nwnet.edu.

Minnesota public records - Stephen E. Collins sec@boombox.micro.umn.edu.

New York legislative data (AB 10035) - Reginald Neale, Citizens for Open Access to Legislation (C.O.A.L.) neale@ee.rochester.edu or Person X nylegis@aol.com.

Ohio legislative data - Peter Robinson 75220.1273@compuserve.com or state legislator Bill Shuck, 614-466-9690 (probably online by now).

NEW MEXICO'S DIGITAL POLITICAL DISCLOSURES

New Mexico appears to have become the first state in the nation to authorize computerized filings of political campaign-finance disclosures. Candidates and campaign organizations wishing to do so may request

CONGRESS ONLINE

Hon. Dave Camp
4th Congressional District, Michigan
Rm. 137, Cannon House Office Building
Washington, DC 20515
davecamp@hr.house.gov

Hon. Maria Cantwell
1st Congressional District, Washington
Rm. 1520, Longworth House Office Building
Washington, DC 20515
cantwell@hr.house.gov

Hon. John Conyers, Jr.
14th Congressional District, Michigan
Rm. 2426 Rayburn House Office Building
Washington, DC 20515
jconyers@hr.house.gov

Hon. Sam Coppersmith
1st Congressional District, Arizona
1607 Longworth House Office Building
Washington, DC 20515
samaz01@hr.house.gov

Hon. Jay Dickey
4th Congressional District, Arkansas
Rm. 1338 Longworth House Office Building
Washington, DC 20515
jdickey@hr.house.gov

Hon. Vernon Ehlers
3rd Congressional District, Michigan
Rm. 1526 Longworth House Office Building
Washington, DC 20515
congehr@hr.house.gov

Hon. Elizabeth Furse
1st Congressional District, Oregon
Rm. 316 Cannon House Office Building
Washington, DC 20515
furseor1@hr.house.gov

Hon. Sam Gejdenson
2nd Congressional District, Connecticut
Rm. 2416 Rayburn House Office Building
Washington, DC 20515
bozrah@hr.house.gov

Hon. Newton Gingrich
6th Congressional District, Georgia
Rm. 2428 Rayburn House Office Building
Washington, DC 20515
gingria6@hr.house.gov

Hon. Dennis Hastert
14th Congressional District, Illinois
Rm. 2453 Rayburn House Office Building
Washington, DC 20515
dhastert@hr.house.gov

Hon. Martin Hoke
2nd Congressional District, Ohio
Rm. 212 Cannon House Office Building
Washington, DC 20515
hokemail@hr.house.gov

Hon. George Miller
7th Congressional District, California
Rm. 2205 Rayburn House Office Building
Washington, DC 20515
georgem@hr.house.gov

Hon. Charlie Rose
7th Congressional District, North Carolina
Rm. 2230 Rayburn House Office Building
Washington, DC 20515
crose@hr.house.gov

Hon. Karen Shepherd
2nd Congressional District, Utah
Rm. 414 Cannon House Office Building
Washington, DC 20515
shepherd@hr.house.gov

Hon. 'Pete' Stark
13th Congressional District, California
Rm. 239 Cannon House Office Building
Washington, DC 20515
petemail@hr.house.gov

Hon. Mel Watt
12th Congressional District, North Carolina
Rm. 1232 Longworth House Office Building
Washington, DC 20515
melmail@hr.house.gov

Brown (D, yes, Jerry Brown's sister). The third-favored candidate for Governor is incumbent Insurance Commissioner John Garamendi (D). State Senator Tom Hayden (D, yes, Jane's ex-hubby) is an "also ran" reform candidate.

When Miller issued the request for voluntary digital filings in January, the Wilson campaign said they'd consider it for the second filing; Brown's crowd didn't respond at all — and Garamendi promptly provided his data on diskette! (Hayden hadn't announced at that time). For the second filing period, Wilson, Brown and Hayden didn't respond at all — and Garamendi *again* filed his disclosures in both paper and modern form.

The Secretary of State's office reported a number of requests for copies of Garamendi's computerized filings, and there has certainly been online criticism of the failure to file in useful form by Wilson, Brown and Hayden.

A number of people have applauded John Garamendi's modern disclosures. It appears that Pete Wilson and Kathleen Brown feel they can ignore computer-literate voters' desire to know who's paying for their campaigns. (It appears likely that Hayden is just running to raise reform issues, and his operation is minimally organized. Nonetheless, his failure to volunteer digital disclosures is embarrassing; he's the author of California Senate Bill 758 that would authorize and *mandate* such filings.)

Wilson apparently has no online presence, but is modern enough to have a fax number: **916-552-6474**.

Brown's email address is katbrown@netcom.com. Hayden's is reform94@delphi.com.

SECY OF STATE WALKS THE WALK

Although it varies from state to state, a major function of a state Secretary of State is to serve as archivist for public records — incorporation papers, lobbyist disclosures, campaign-finance statements, etc. Thus, the Secretary of State should have a more-than-average dedication to public disclosure and public access — even for themselves.

appropriate software from the New Mexico Bureau of Elections. The software that the Bureau sends includes encrypted identification information to ensure that no one other than the candidate or campaign committee that requested the software is submitting computerized filings on their behalf.

Like most states that mandate campaign-finance disclosures, New Mexico requires such filings to be signed and notarized. The Bureau-provided software prints a summary sheet for each diskette filing that is to be signed and notarized, and submitted along with the diskette.

The hope is that most candidates will take advantage of this filing option to better assure that their filings and contributions' computations are complete and accurate (thus avoiding penalties and political embarrassment), and are accurately entered in the state campaign-disclosure system.

WILL CANDIDATES VOLUNTEER?

The New Mexico statute authorizes digital disclosures but does not require them. Will the biggest campaign operations — especially those that receive large contributions from, uh, "shy" special interests — choose to thus make their information most-easily available to citizens, hawk-eyed reporters and political opponents?

The California Governor's race provides a sad example. Secretary of State Tony Miller has twice requested that the four gubernatorial candidates voluntarily provide their disclosures in computerized form, as well as in the required paper form — invariably printed by the candidates' campaign computers.

The two front-runners are incumbent Governor Pete Wilson (R) and incumbent State Treasurer Kathleen

Not so in California's open race for Secretary of State. Although there are three major Democratic candidates for that office, only Acting Secretary Tony Miller has voluntarily filed his campaign-finance disclosures in digital form.

Miller is also the only one who is an experienced public administrator, rather than a career politician. Opponent Mike Woo was one of last year's unsuccessful candidates for Los Angeles Mayor. Opponents Bill Jones and Gwen Moore are long-time State Assembly Members, about to loose their seats under term limits.

Moore illustrated her "dedication" to public access, last year, when she refused repeated requests to support AB 1624 that made state legislative information available online. Also in question is her judgment and oversight, since her hand-picked Chief of Staff was indicted and convicted of influence-peddling not long ago (Moore was not publicly implicated).

GovAccess PROVIDES UPDATES

Last year, I produced about 40 online updates and action- alerts regarding California's Assembly Bill 1624 that, when enacted, made state legislative and statute information available online without state fees. These time-sensitive postings were widely credited with prompting the public pressure that was instrumental in getting the bill passed.

This year, I created a larger-scope distribution list called "GovAccess." It reports items related to computer-assisted government access at local, state and federal levels. The general focus is on explicit legislation-in-process and other action-items around the nation, including new agency offerings, online citizen-organizing efforts, community /civic network developments, and so on.

I typically issue one or a few GovAccess posts per week. Action alerts may be only 3- to 5-kilobytes, though most of the informational postings run 10- to 16-KB covering half a dozen topics. Unlimited nonprofit reposting is encouraged.

To receive them at any Internet address, send an email request to: jwarren@well.com (and include a few lines about yourself and/or your GovAccess-related interests, if yer willin'.)

CIVICNET MEETING(S)

If you know of local, regional or national meetings about community or civic networks, please forward details to me, for publication in this column and in GovAccess.

There will be a San Francisco Peninsula CivicNet '94 Symposium, June 17th. Contact symposium administrator Ruth Nagler (415-345-1221) or Co-Chair Warren Slocum (wslocum@delphi.com). I'm the other co-chair.

A national civic networking conference has been tentatively scheduled for the first week of February, 1995. More details when available.

[Jim Warren, founder of InfoWorld, was the host of PBS' "Computer Chronicles", and Editor of Dr. Dobb's Journal and has chaired various computer organizations. He began working as a programmer in 1968, holds three graduate degrees, and has taught computing at Stanford and other universities.]

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Multiple command shells	Yes	No	No	No	No
Intelligent DigiBoard	Yes	Yes	Yes	No	No
Int14h device support	Yes	No	Yes	No	No
Standard serial ports	Up to 10	No	Up to 4	Up to 2	Up to 2
Caller ID security	Yes	No	Extra	Extra	No
Nested security logic	Yes	No	No	No	No
Multichannel chat	Yes	Extra	Yes	Yes	Yes
Private user chat	Yes	No	Extra	Yes	Yes
Offline reader support	Yes	Yes	Extra	Yes	Extra
QWK networking	Yes	Yes	Extra	No	Yes
FidoNet import/export	Yes	Yes	Yes	Yes	Yes
PostLink (RIME) support	Yes	Extra	Yes	Extra	No
Includes RIPscrip menus	Yes	Yes	No	Yes	No
Novell/DOS LAN support	Yes	Yes	Yes	Yes	No
Enhanced CD-ROM support	Yes	Yes	Yes	No	No
Incoming FAX support	Yes	No	No	No	No
Chat between doors	Yes	No	No	Yes	No
Bidirectional file transfers	Yes	Yes	Yes	No	No
DOS door support	11 types	2 types	2 types	No	No
FILE_ID.DIZ support	Yes	Extra	Yes	Yes	No
Offline NetMail	Yes	Yes	Extra	No	Yes
Offline/Remote file requests	Yes	No	No	No	No
Real-time configuration	Yes	No	Yes	No	No

Features and prices compiled from vendor supplied information 2/94, are subject to change without notification. Wildcat!IM, PCBoard/M, MajorBBS, TBBS, QWK, FidoNet, PostLink, RIME, RIPscrip, Novell, and DOS are trademarks or their respective companies. Third party utilities may be required for some message network technologies. * For 8 nodes Wildcat!IM requires a 250 node license, PCBoard/M requires a 10 node license, TBBS requires a 16 node license.

If you haven't checked out Synchronet yet, crank up your modem and download a demo. There isn't a faster, more feature rich BBS available anywhere from anyone. Synchronet combines the robust interactive nature of a multiuser BBS with the speed, power and flexibility of a multinode system.

It was innovative out-of-the-box features such as intelligent variable timeslicing, ARSTM security, RIPscrip, enhanced CD-ROM, and easy to use fully integrated message network support that made Synchronet a multinode powerhouse. And now, with version 2.0, custom programmability, lightning fast high volume messaging, and much more makes Synchronet *the* sysop's choice for BBSing in the 90's.



Synchronet **BBS** **version 2**
Multinode Bulletin Board System Software

by Bill Gram-Reefer



K12 TAKES HIGH GROUND

The K12Freeway, an offshoot of the K12Net, adds satellite feeds to sysops and schools who want to receive a variety of K12-based education conferences. The conferences listed in the accompanying table became available in March from any FIDOnet technology BBS or distribution hub obtaining a network feed directly or indirectly from the Planet Connect satellite downlink currently serving North America and, soon, Europe, the Pacific Rim and elsewhere. Land-based paths for return K12Freeway traffic are the same as all other uplinks to Planet Connect.

The K12Freeway was founded and is "meta-moderated" by Jack Crawford who also co-founded K12Net in 1990. There are no administrative or other ties between these networks. Many know K12Net as a mature, well established, narrowband distributed "traditional" school network, while the K12Freeway is operated under a more decentralized management philosophy and utilizes broadband distribution.

The K12Freeway telecommunications network is a part of the Information Highway that is not a toll road. It is a "militantly free and accessible" experimental electronic community providing elementary and secondary school educators, students, parents and others with the ability to meet in public conferences to share information, ideas and other resources relating to teaching and

learning in grades K-12. It is a virtual school in itself.

A pet project of Crawford and Joe Overholt, president of Planet Connect, this system provides essentially K12Net content via satellite dish. Once a day beginning at 7:45am about 40-50 Mbs of compressed USENET news groups and K12FREEWAY newsgroups are beamed into the sky and received by a satellite orbiting the globe. Then, the satellite begins to transmit those packets, one after the other until it has transmitted all packets; starting over again to continually broadcast the material for 24 hrs. Schools or sysops equipped with standard satellite receivers who subscribe to this new service through Planet Connect can then truly download all of the conferences or individual packets they want for their board for local use or retransmission over land-based lines. Responses are then sent directly back to Planet Connect in Newport, TN by the satellite node over land-based lines, where they are processed and wait in queue for the next morning's uplink to the satellite. The same conferences are distributed over the FIDOnet backbone as well, so responses generated by the satellite distribution can be shared across the backbone.

According to Planet Connect, the cost savings to sysops who supply these conferences to their users and to schools can be tremendous since amortizing the cost of the dish can be less expensive than the telco charges from receiving the same size of transmissions over land lines from other FidoNet nodes. As the responses to the messages are usually much smaller, the land-based backfeed call to the return node at Planet Connect takes only minutes.

According to Crawford, "Each participant on the K12Freeway is expected to actively share in the responsibility for the animation, moderation and regulation of each conference community he or she is a part of. Peer group ownership is the predominating managerial force and is built into the system. The need for heavy reliance on the heroic efforts of any one individual to perform critical tasks or ongoing administration is minimized, even in the face of ever-expanding traffic levels and bandwidth. Each conference community takes care of itself..."

Contact your nearest Planet Connect hub for a K12Freeway network feed. Beginning in 1995 additional distribution through the backbones of FIDOnet and other networks, list-servers, etc. will be actively sought to reach the widest possible audience and bandwidth. Please note this is not a commercial environment and there is no central funding involved.

For more information relating to Planet Connect and other "plumbing" aspects of the K12Freeway, contact Boyd Goodin at Planet Connect at (615) 623-8300 (voice). For content-related questions contact Jack Crawford at (315) 331-1584 (voice) afternoons only (EST), or email to jack@rochgte.fidonet.org or FidoNet 1:260/620.

K12Freeway TAGNAME DESCRIPTIONS

K12_Fwy.NET.ISSUES	Issues Concerning K12Freeway Network
K12_Fwy.ACAD.COMP	Academic Computing Info & Issues
K12_Fwy.ART.ED.CLASS	Art Classroom
K12_Fwy.BUS.ED.CLASS	Business Education Classroom
K12_Fwy.CLASSIC.LANG	Classical Language Arts Classroom
K12_Fwy.COUNSELING	School Counseling & Guidance
K12_Fwy.EDU.ISSUES	Issues Concerning Educational Policies, Reform, etc.
K12_Fwy.ENGLISH.CLAS	English Language Arts Classroom
K12_Fwy.FRENCH.CLASS	French Language Arts Classroom
K12_Fwy.GERMAN.CLASS	German Language Arts Classroom
K12_Fwy.HLTH.PHYS.ED	Health & Physical Education Classroom
K12_Fwy.HOME.ECON	Home Economics, Safety & Life Skills Classroom
K12_Fwy.LIBRARY.SCI	Library Science Classroom (school and public)
K12_Fwy.LOGISTIC.SUP	Logistical Support Svcs
K12_Fwy.MATH.CLASS	Mathematics Classroom
K12_Fwy.NEWS	K12Freeway Community Newsroom (news only)
K12_Fwy.OTHER.LANG	Language Arts Classroom (Japanese, Russian, etc.)
K12_Fwy.PARENTS	Parents as Teachers/Curricular Resources
K12_Fwy.PERF.ART	Performing Arts Classroom (band, drama, etc.)
K12_Fwy.POPULATION	K12Freeway Conference on World Population
K12_Fwy.PRINCIPALS	School Administrators conference
K12_Fwy.RELIGION	Religious Education Classroom (non-public schools)
K12_Fwy.SCI.CLASS	Science Classroom
K12_Fwy.SOC.STUDIES	Social Studies Classroom
K12_Fwy.SPANISH.CLAS	Spanish Language Arts Classroom
K12_Fwy.SPEC.ED	Compensatory Education (learning disabled, etc.)
K12_Fwy.TAL&GIFTED	Teaching Talented & Gifted Students
K12_Fwy.TEACHING	Philosophy/Science/Art/Craft/Profession of Teaching
K12_Fwy.TECH.ED.CLAS	Technology Classroom
K12_Fwy.UNION.ISSUES	School Labor Union-related issues & information
K12_Fwy.VOCATIONAL	Vocational & Trades Classroom

YOUR TAX DOLLARS AT WORK

In February, this column mentioned the toll-free BBS operated by the Office of Educational Research and Improvement of the U.S. Department of Education. This online warehouse provides education-related statistical research, bibliographies, and papers, accompanied by some bulletins and messaging areas. OERI's director, Keith Stubbs responds:

"Thanks for the mention of the OERI Toll-Free BBS in the February issue of Boardwatch. Your readers may be interested to learn that we have completely overhauled the system and are now operating four toll-free nodes with 14.4 bps modems. Last year we had a lot of problems with our aging Alloy ClusterPlus platform. For several months we ran the system on an inadequate backup machine which couldn't handle more than two lines at a time. In December we converted the system from RBBS to the Major by Galacti-comm, running on a new Compaq DeskPro 33M, and the system is back at full strength, logging more than 6,000 calls per month.

"In October, we launched an Internet Gopher Server which contains the same educational research, statistics, announcements, full text publications, and public domain software, and a number of additional resources from other parts of the U.S. Department of Education, such as press releases and grant announcements. If your Internet account provides Gopher access, you are welcome to gopher to **gopher.ed.gov** or find us through the main directory at the University of Minnesota under North America —> USA —> General —> U.S. Department of Education. Call OERI at **(800) 222-4922**; 14.4 Kbps; 4 nodes. To contact Keith Stubbs, write: Director, Education Info. Resources Div. US Dept of Education/OERI, 555 New Jersey Avenue, NW Rm 214c, Washington, DC 20208-5725; **(202) 219-1803** (voice) **(202) 219-1817** (fax); **kstubbs@inet.ed.gov** (Internet).

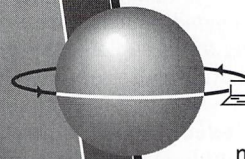
[Bill Gram-Reefer, based in Concord, CA, is president of WORLDVIEW, specializing in connectivity and communications. E-mail Bill at: **wk05156@worldlink.com** - Editor]

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by Bill Gram-Reefer



FC CLIENT FOR NEWTON

Black Labs, Inc. of Boulder, CO, recently demonstrated FirstClass Retriever, a Newton MessagePad client for the FirstClass e-mail and conferencing system from SoftArc Inc. of Scarborough, Ontario, Canada. First-Class Retriever allows users to automatically retrieve, read and reply to mail from remote FirstClass servers using a Newton MessagePad with either an internal PCMCIA modem, an external serial modem, or modem-emulating wireless transceivers.

FirstClass Retriever operates in two modes: Connect and Xchange, corresponding to the two most frequently used modes for electronic mail systems. In Connect mode, the user can selectively read and respond to messages while connected to a FirstClass server. Xchange mode is used to minimize phone connect costs, allowing the user to quickly download messages for later review and upload messages created offline in batch mode.

In Connect mode, the user logs on and retrieves a message list by simply tapping on the Connect button. Once the message list appears on the screen, the user simply taps on messages he wants to download and view. While viewing a message, the user can choose to Delete it, Reply to it, or Save it permanently in the MessagePad. The user can also download selected

messages and log off from FirstClass. Those messages that have been downloaded are still viewable after logging off.

Xchange transfers mail between the Newton MessagePad and the host system automatically. In Xchange mode, the MessagePad is automatically connected to the host system, all unread or a preselected number of messages are automatically downloaded from the FirstClass server and unsent mail destined for that host system is automatically uploaded. When downloading and uploading are complete, the user is logged off the FirstClass server.

Other features of FirstClass Retriever include support for connections to multiple FirstClass systems or the same system from different locations and support for off-line message creation. When a new message is created off-line, the user is asked to specify which FirstClass system the mail is destined for. As an Xchange session occurs with that FirstClass system, all unsent mail destined for that FirstClass System will automatically be sent. Finally, with FirstClass Retriever, the MessagePad can be set to periodically Xchange with a particular FirstClass system and alert the user if new mail has been downloaded.

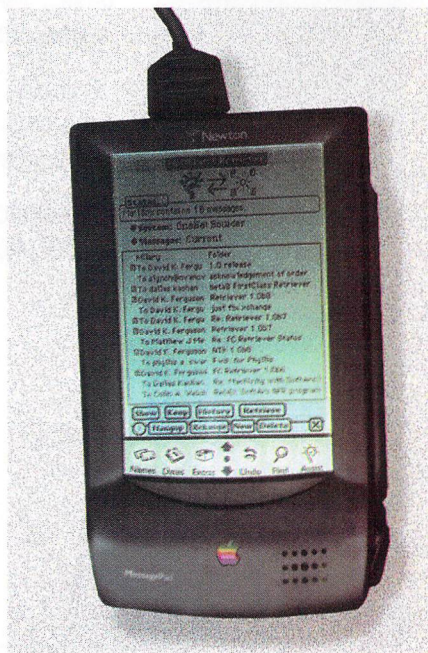
FirstClass Retriever is the first of a series of software retrievers and browsers for the MessagePad from Black Labs. "By creating a series of

products targeted at different host systems, Black Labs can give each product the unique feel of the host system to which it connects, provide optimized and reliable operation for that environment, and price the product economically. In addition, the memory requirements are minimized allowing use of the MessagePad with PCMCIA modems," said Doug Swartz, Black Labs President.

FirstClass Retriever is priced at **\$69** retail and is shipping at this time. A subsequent version, **FirstClass Retriever+** will follow, offering the features of FirstClass Retriever plus the ability to browse and download selected items from FirstClass Conferences. FirstClass Retriever+ is expected to retail for **\$99**. Until FirstClass Retriever+ is shipped, all FirstClass Retriever purchasers will receive a certificate allowing them to upgrade to FirstClass Retriever+ for **\$15** as soon as it is available.

For more information, contact: Phyllis Swartz, VP of Marketing, Black Labs, Inc. 3613 Sunshine Canyon, Boulder, Colorado 80302; (303) 938-8580 (voice); (303) 938-8564 (fax); 73641, 3351 (Compuserve); **Blacklabs@applelink.apple.com** (internet).

SoftArc Inc. Global-Area Communications 805 Middlefield Road, Suite 102, Scarborough, Ontario, CANADA, M1V 2T9; or 1902 Ridge Road, #325, West Seneca, New York, USA, 14224; (416) 299-4723 (voice); (416) 754-1856 (fax); (416) 609-2250 (FC BBS); **sales@softarc.com** (internet).



STALKER SHIPS PORTCONNECTOR

Stalker Software Inc., announced it is shipping its PortConnector, a Control Panel for Macintosh that lets all Mac communication applications access and use Connection Tools in Apple's Communication Toolbox (CTB). Suggested by Swiss developer, Andreas Fink, creator of InterFinder, PortConnector enables Mac communication programs to make connections using X.25, TCP/IP, ISDN, or ADSP protocols, or with any network supported by a Connection Tool.

While most Mac communications servers register ports, they aren't really

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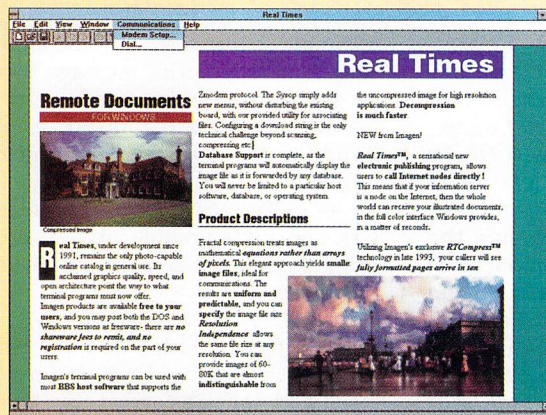
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Jim Thompson, Boardwatch Magazine

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CTB-Savvy like a ClarisWorks where you can actually access the tools. But with PortConnector, users now can employ Apple's Remote Access to connect to an office network over ISDN or TCP/IP connections, or use TeleFinder (bbs), or a non-CTB aware application such as White Knight (data), to access ADSP or X.25 links.

PortConnector can configure multiple "virtual ports" with different connection parameters for each Connection Tool and register them with the CTB. PortConnector also lets users work with pre-CTB applications (e.g. White Knight) that support only the built-in modem and printer ports by redefining the built-in ports as virtual ports. For each port created, PortConnector can establish a direct serial link or emulate a modem by processing and responding to regular "AT" commands sent through the virtual port.

PortConnector works on any Macintosh, requires System 7, and supports Balloon Help. To retail at \$49, PortConnector is available direct from Stalker and through its authorized resellers. The package includes the software, full documentation, access to toll-free telephone support, and offers a 30-day, unlimited warranty and money-back guarantee. Contact: Stalker Software Inc., 15 Skylark #21, Larkspur, CA 94939; (800) 262-4722 (sales); (415) 927-1026 (fax/int'l).

TELEFINDER PRO GOES SHAREWARE

If you're itching to replace your ZTerm v.09, TeleFinder Pro 2.2 from Spider Island Software is worth a look. TeleFinder Pro provides a high level of quality at a shareware price, in fact it would be difficult to match its list of features in any shareware or commercial communications product.

Pro's features include: Standard terminal emulations, true 16 color ANSI emulation, plus VT100/102, Monochrome ANSI for B&W Macs, and TTY; fast 32-bit ZMODEM transfers and XMODEM, XMODEM-1K (YMODEM), and CIS B Plus (the fastest way to transfer files on CompuServe). Plus Pro provides a full scripting language with more than 30 verbs to automate logons and routine communication chores. The package includes sample scripts for the Internet, CompuServe and GEnie.

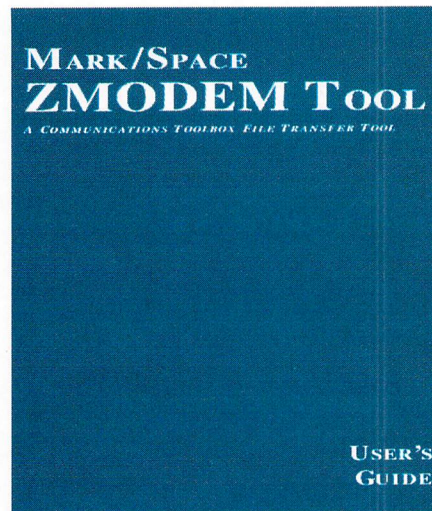
Pro also includes nearly 200 proven modem drivers including support for 28,800-bps V.FAST modems. A built-in host mode enables you to use Pro as a "mini" TeleFinder BBS to make sharing files with friends fast and easy. Pro's host mode uses the same "drag and drop" graphical interface found in TeleFinder's Group Edition BBS. Other advanced features include the ability to drag and drop entire message threads, or set up conference subscriptions online. Pro's automated message handling frees you to read and reply offline when you have the time to save on long distance charges. Included are GIF and PICT graphic viewers, a built-in mail outbox, a 250 entry auto-dialer, and more.

The file includes documentation that describes all of Pro's features in a clear and concise format available on most well-stocked bulletin boards, Mac archives (if they haven't been hacked) and major services like AOL (if you can get on). TeleFinder Pro's registration fee is just \$15 for the online package with a 30-day try-it period, or \$25 for a printed manual and disk. Visa, MasterCard and American Express are accepted. Or contact Spider Island Software 4790 Irvine Blvd., Ste 105-347, Irvine, CA 92720; (714) 669-9260 (voice); (714) 669-1383 (fax); (714) 730-5785 (bbs-log on as **Guest** with Password as **Guest**).

ZMODEM TOOLS

Mark/Space Softworks has released Mits ZMODEM tool for Macintosh. Once installed, the \$30 software becomes available to any communication program that can work with the Mac's communication Toolbox. The tool supports Auto-Receive, Auto-Resume, and batch transfers where multiple files can be sent for high efficiency. And, it can be used in conjunction with connections that interpret control characters, such as Telnet or serial connections using software flow control.

Using the Mark/Space ZMODEM Tool is relatively straight forward. It shows up in the dialog box along with the Apple modem, serial, and other tools in you dialogue screen, where you can select it and configure it for use. A flexible status window provides basic file transfer information including speed and time remaining, while a simple click on "Show More Info" will provide elapsed time, file names and locations, and other information about



the download including a shaded bar that illustrates the progress of the transfer.

How fast is it? According to Mark/Space's Brian Hall, "The people that are most concerned about speed are those running over ADSP, ISDN, Telnet and other network protocols. I've clocked it at 15,500 cps over LocalTalk between two 68030 machines. Over a 14.4 modem, it usually gets around 1650 cps for compressed or bin hexed files (what most people transfer). It can go as high as 3,000 cps on certain text files, but I don't think that is a typical use.

"Our own tests put it within +5% of other implementations. At one point we had it going much faster than others by using interrupt tasks, but found that we could only count on a handful of apps to actually work that way. The CTB spec says that certain routines are allowed to be called at interrupt time, but many of the apps we were targeting for (Works, QuickMail, etc) did not follow the guidelines. We are looking at putting it back in for apps that we have certified "safe", or at least when the tool is used with Communicate."

According to Hall, the Mark/Space tool's main advantages (over other tools) are a complete user guide (other products only give a few pages to ZMODEM), full balloon help everywhere (even the status window), choice of finder style, or an advanced status window, and the ability to purchase ala carte.

As developers of Communicate and Communicate Lite, Mark/Space warns that this is only the first in a series of tools the company will release soon. It anticipates shipping Telnet, TTY, and

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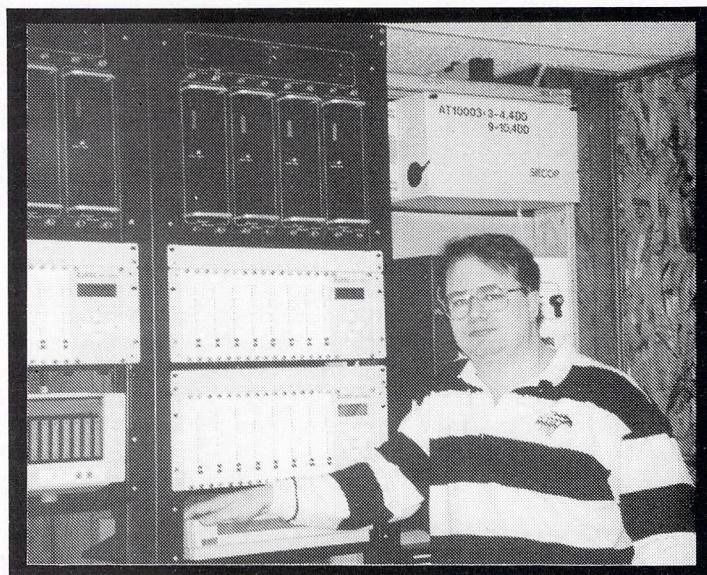
Cheetah was specifically designed for BBSs. The software keeps track of users' time left on the BBS, mode settings, modem status and even allows users to download their search results using any compression software they choose.



Cheetah handles any text - newsletters, magazines, even government regulations!

Cheetah is available in both serial port and Digiboard versions and works out of the box on Novell Networks. Cheetah comes with an unlimited user license per BBS.

So if you work for a corporation, association or government and run a BBS, or just have the task of building one, call APDI at 1-800-785-APDI (1-800-785-2734) and find out more about Cheetah's ability to give your users what they need.



Mark Burnett at APDI's BBS center.

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Typical APDI clients are organizations that need turnkey BBS solutions or advanced technical support. APDI provides installation and support for **WILDCAT!**, **PC BOARD**, **TBBS**, and **SEARCHLIGHT**. APDI is also a Certified Mustang Software Integrator (CMSI).

Most of APDI's corporate customers find it advantageous to let APDI run the BBS for them at APDI's location. APDI provides all equipment (like the BBS center shown above) and handles all technical support and navigation issues on your BBS. APDI's fiber-optic cabling ensures crystal clear connections and communications to your bulletin board system.

Many businesses wish to add a **database** to their BBS but find it difficult to locate programmers with the skills to assist them. APDI has a skilled database development staff and is on the **FoxPro** and **Paradox** development teams.

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PC-ANSI tools and others this year. You can Anonymous ftp **netcom.com:pub/mspace**

Other reported third-party commercial ZMODEM products include one from Glenn Howes, (internet mail to **howes@bert.chem.wisc.edu**), Seaquest Software, (internet mail to **d0937@applelink.apple.com**), and from Tim Endres (internet mail to **time@ice.com**).

Brian Hall, Mark/Space Softworks, 430 Oak Grove Drive, #304, Santa Clara, CA 95054; (408) 982-9781 (voice); 408-982-9780 (fax); (408) 982-9046 (bbs); **mspace@netcom.com** (internet).

HIGH SPEED PORTS FROM CREATIVE SOLUTIONS

The advent of the new 28,800-bps modems now making their way to market from a variety of vendors could be a blessing to many sysops, if they have the right kind of hardware that can handle these new high-speed throughputs.

This magazine recently published, in the February issue, a valuably detailed letter from Rod Paine, sysop of the ASTEC BBS, detailing the vagaries of transferring files over modems at LocalTalk speeds. His ongoing analysis can be found on various TeleFinder BBSs, or on the Spider Island BBS variably as "OPTIMA 288 & TF" in the sysop file areas of those boards. In his letter to the editor, Paine opined: "Utilizing the Optima 288 with the Mac is best accomplished with the help of a Creative Solutions Inc., Hurdler HDS serial port NuBus card with a special ROM and software, or the soon to be released Hustler HDS+ high-speed serial port NuBus card which CSI will show at MacWorld (they did; ed.). Since the Mac can't be programmed to support a DTE speed greater than 57.6 Kbps, the CSI Hurdler/Hustler NuBus card, with its large input/output buffers is the only way to go. The present HDS card will support a 115.2-Kbps DTE with a special extension written by Ward McFarland of CSI, and the new (Hustler) card supports a 230.4-Kbps DTE."

According to CSI, their new the Hustler/HDS+ features one or two accelerated serial ports that support all major Mac terminal and BBS software

providing support for V.FAST and V.FC modems providing 230 kbps per second on one port or 115,000 when two ports are used simultaneously while buffering up to 32K of data on board. The 2-port boards retail at \$299 and provide two Mac-style mini-DIN-8 connectors, support the Communication ToolBox, and handle hardware handshaking and error detection locally using "smart" ports.

So once you cover your port situation with a Hustler, it appears the only other bottlenecks are your hard disk and software. Great! Creative Solutions 4701 Randolph Road, Suite 12, Rockville, MD 20852; (301)984-0262 (voice); (301) 770-1675 (fax); (800) 367-8465 (toll-free sales).

STUMP THE CHUMP: PART DEUX

Here are some recent letters that request some specific solutions to sysops hoping to serve their clients better. While this writer makes no warranty as to the suitability (or correctness) of his replies he gives it the old college try:

READER#1: "Hi Bill, I work for TNE (The Nashville Exchange), a 34 line DOS based BBS (615) 383-0727. I am "reaching out" to you in desperation. We have a considerable number of MAC users on-line and I am looking for a way to serve them better. At present, we are calling various boards, like Channel One in Boston, to obtain new and fresh shareware files for our user base to download. Finding DOS/Windows, OS/2, etc. related files is not a problem. What is a problem is finding a good supply of MAC files on a BBS that supports DOS based machines!"

THE CHUMP REPLIES: If I'm your last chance for an answer you are indeed in pathetic shape. If you didn't know, this is just the lowly Macintosh section of Boardwatch Magazine. And as this publication is so quick to point out, only an blithering idiot would consider looking anywhere but to the top DOS BBSs as the fount of all good things. The truth of the matter is there are in fact thousands of boards that contain, as you describe, "MAC files on a BBS that supports DOS based machines!" "They are the FirstClass, NovaLink, and TeleFinder Macintosh BBSs that support Mac and Windows users with a graphical user interface; point and click ease-of-use, easy-to-use Chat features, Internet access, and

really simple file transfers. They all support DOS users too with TTY command interfaces. So who's kidding who? (Mac fanatics are always so touchy, aren't they?)

First, I recommend that you subscribe to Mac-Info-Digest (you can find this on Mac BBSs and subscribe. This frequent report catalogs new entries that have been uploaded to the SUMEX-AIM archive located at Stanford and other Mac FTP sites. But a recently reported hit on SUMEX by some hacker that thoroughly trashed the files (what! they didn't back-up?) and the fact that many of these FTP sites are unreachable during normal hours means that you and other FTPers may need to look elsewhere in the future. Various Mac-based BBSs in fact mirror these sites, and occasionally have an even more extensive collection. Did you ever think of calling a Mac BBS? AMUG would be a good start (602) 892-5454, as would almost any OneNet BBS such as Planet BMUG (East or West) or the Boston Computer Society's Mac BBS. However, you could even get away with subscribing to AMUG's CD-ROM collection BBS-In-A-Box (updated frequently and available in most Mac catalogs), although this strategy won't always provide the newest, volume can speak words. Another possibility is Walnut Creek CD, (4041 Pike, Concord, CA 94520; (510)674-0783) which provides the SUMEX-AIM archive on CD-ROM. Sorry for the sour grapes. I just lost control for a second.

READER #2: "Considering your expertise in the field of MAC BBSs, I am hoping you can point me in the right direction. Paying a subscription fee is not a problem. Any advice you can give would be more than appreciated! I have been reading your articles in Boardwatch and wondered if you may have some comments on Mac BBS software for a project I am researching. The vision of this project is to establish an online information service for the oil & gas industry. We would like to offer local and internet e-mail, conferences, chat links, internet newsgroups, online CD-ROM (on a carousel of up to 28) and hard-disk stored files (perhaps as large as 9GB). We would also like to include a "dial-out" feature like Interchange on TBBS from e-Soft. Also, we hope to have online shopping. We have looked at all of the major DOS based packages and have not found the user-interface particularly impressive. We have been impressed, however, with the Mac-based FirstClass and TeleFinder Windows terminal front-ends.

"The population we seek to serve is approximately 5,000-8,000 in size and we believe that perhaps 80-100 phone lines will eventually be necessary. Would you have any comments on FirstClass and/or TeleFinder and their abilities to service this size of client base? Are there other packages out there that we are not aware of that offer the additional Windows front-end for DOS users? Do you feel these packages could handle the scope and hardware required for such a system?"

THE CHUMP RESPONDS: All three major Mac BBS platforms, FirstClass, NovaLink, and TeleFinder can handle scores of lines, internet mail, chat, file transfers, all with an easy to use graphical user interface. TeleFinder, for example, can be set-up in a multiple-server configuration where you can string several Mac CPUs together to provide the NuBus slots you'd need to install multi-port serial port cards to support the numbers you're talking about. NovaLink also has several 40-line+ installations that could be expanded or customized.

FirstClass, via a third party (EveryWare) offers 411 for FirstClass, which allows users to perform search and retrieval operations on a database that contains standard contact information such as name, address, and telephone numbers. The product will ship with an administration application that will allow the FirstClass system administrator to import, export, add, delete and update information in the database. 411 for FirstClass ships with a special version of EveryWare's Butler SQL Database Server. And, NovaLink supports Apple's AppleSearch, a Z.39 WAIS-based searching and report tool that could also be used for online shopping.

READER #3: "Hi Bill, I read your column in Boardwatch regularly and so took the liberty to write to you. You see, I run a two line BBS using Wildcat! 3.9M here in Bombay, India. We are in fact the biggest and most active BBS in the Indian subcontinent. We are also connected to the FidoNet (6:606/1). Personal computers in India are almost always PCs but I have this user of mine who is using a MAC LC. He uses ZTERM (if I am not mistaken) but he can't do much since he does not have a .QWK reader. Since I have promised to help him out, can you: a) UUENCODE a .QWK reader to my address; or b) tell me which site holds this so that I can FTP it from there.

"Since direct FTP costs me a bundle, I would rather have a mailserver where I can send a mail for them to UUE it to me as a mail. I am expecting a lot of Mac users since a new company has taken the reins for Apple products here. This basically means that there shall be more than 2 happy faces if you are able to help us in this quest. If you can help out in this matter that would be absolutely FAB, however, I can understand if you are busy but please do point us in the right direction. Warm regards, Suchit Nanda."

THE CHUMP ANSWERS: Both Freddie 1.2.5 and Alice 2.1.4 E provide the QWK-mail readers that Mac users can employ to log on quickly to get their mail from a BBS that supports .QWK messaging formats. These are available from most well-stocked Mac BBSs and FTP sites. I tried mailing an en-coded version of each but for some reason they got bumped back by my Internet account. Rather than make this person suffer any longer would someone please send binhexed copies of the two programs (and some other treats) to: Suchit Nanda (suchit@shakti.ncst.ernet.in).

A MODERN PROJECT

To postmodern philosophers, it is an open secret that the Modern Age, especially the West, is in a state of collapse. According to J. Bottum, who recently received a Ph.D. in Medieval Philosophy from Boston College, "the modern project that attacked the Middle Ages has itself been under attack for some time...hyper-modern writers have brought to bear against their modern past the same sort of sacrificing analysis that earlier modern writers brought against the premodern past. These later writers (e.g. Nietzsche, Spengler, Heidegger, Sartre, Foucault, anon), supposing the modern destruction of God to be complete, have turned their postmodern attacks upon the modern project of Enlightenment rationality." Bottum's "Christians and Postmoderns," an essay concerning how people of faith should view these postmodern attacks against modernity, appeared recently in the February edition of *First Things*. In it, the author describes "the modern project":

"What believers have in common with postmoderns is a distrust of modern claims to knowledge. To be a believer, however, is to be subject to an attack that postmoderns, holding truthlessness to themselves like a lover, never have to face. The history of

modernity in the West is in many ways nothing more than the effort to destroy medieval faith. It is a three-hundred-year attempt to abolish medieval (especially Catholic) claims to authority, and to substitute a structure of science and ethics based solely on human rationality. But with the failure to discover any such rational structure—seen by the postmoderns—the only portion of the modern project still available to a modern is the destruction faith. It should not surprise us that, in very recent times, attacks on what little is left of medieval belief have become more outrageous: resurgent anti-Semitism, anti-Islamic broadsides, vicious mockery of evangelical preachers, desecrations of the Host in Catholic masses. For modern men and women, nothing else remains of the high moral project of modernity: these attacks are the only good thing left to do. The attackers are convinced of the morality of their attack not by the certainty of their aims—who's to say what's right or wrong?—but by opposition from believers."

Yet, many of the early philosophical protagonists of the modern project, Descartes and Kant for example, still equivocated on the question of whether knowledge was dependent upon the existence of God. Others, like Voltaire, found running room by appealing to Deism and religious toleration despite their fierce, witty, and irreverent opposition to the autocracy of Catholicism in France. Yet a few, anticipating the postmodern critique—like deSade in his *Philosophy in the Bedroom*—saw the meaningless of Bacon's empty pit and just said "darn it," and did so quite often.

The great thing about ideas though, despite the objections of my materialist friends, is that they have legs. So, if you hurry you can still visit what must be one of the last, Voltaire-inspired, virtual salons of modern, libertine discussion and sexual titillation when you log on to **Freethinkers BBS**. Not exactly Fernay, not quite deSade, but Freethinkers carries on, as best it can, the modern project. And if you like thumbing through a Playboy for the articles, this BBS may be for you.

Zardoz is the sysop of Freethinkers BBS, which is currently one line and basic access gives you 30 minutes. You need to e-mail the sysop to achieve access to the adult areas and discussions. The board uses a Global Village Teleport Gold, 14,400 bps and an Apple Macintosh IIfx, 520Mb hard drive, 8Mb RAM, running TeleFinder.

There are some computer files here for DOS and Mac: apps, art, telecom, utilities, and sound files. But that's not the point of this board, I suspect. The real action is the lively discussion which is divided into several areas: plain, spicy, and extra-hot. Laudably — in a gratuitous show of tolerance, no doubt — the Freethinkers logon screen encourages people to freely create their own topic threads in the conference areas, even providing a special text file to tell you how.

The general topics section includes news commentaries, something called CS & DD (cyberspatial sons and daughters of delirium, reviews of Miami restaurants, and an ongoing conference on E-Prime.

To give you a taste of what goes on here, E-Prime (English-Prime or E') describes an English language derivative that eliminates the use of the verb "to be" in any form ("is," "am," "are," "was," "were," "be," "been." [and their contractions]) D. David Bourland, Jr. started the concept of E-Prime in 1965 based on the general semantics of Alfred Korzybski (1879-1950). E-Prime automatically eliminates the "is-dependent," "over-defining" of situations as some people confuse one aspect, or point of view of an experience with a much more complex totality. This "over-defining" occurs chiefly in sentences using the "is of identity" (e.g., "John is a scientist") and the "is of predication" (e.g., "The leaf is green"), two of the main stumbling blocks impeding a non-Aristotelian approach. It is claimed that E-Prime can also enhance creativity in problem solving, by transforming premature judgment statements such as "There is no solution to this problem" into more strictly accurate versions such as "I don't see how to solve this problem (yet)."

As Werner often asked, "Did you get it?"

According to Zardoz, "The posts express participants' ideas in the form of E-prime. Word processors allow a simple way to check E-prime with the use of their "find" function. This topic allows an excellent way to practice this style of writing, and although it seems difficult at first, after a few hundred lines of practice, it begins to get easier. So far, I have not found any subject that I cannot express in the style of E-Prime. Hopefully, we can cover many different subjects in order to explore the potential of E-Prime and epistemology." Zardoz also notes that no one should feel excluded from writing in regular

English. Feel free to comment in any style of writing, but, anything written in E-prime gets considered as fair game.

The OTHER SIDE, ironically the name of an evangelical publication, contains rantings on Religion, UFOs, Meditation, Brushes with the law, and Freemasonry. Text files for Freemasonry and Religion are supplied, including a 1.5 Mb stuffed Bible. Another topic here is Ask Xeno. Xeno seems to be deSade's virtual-reality as he/she/it answers all comers' explicit questions regarding sex with humans, aliens and, although I did not run across mention of my friend Flicka, you shouldn't be surprised. XXX TOPICS include: Describe yourself, S&M, XXX Videos, Jokes to Offend, Adult Ads, Romantic Corner, and Love Poetry.

The Adult file section contains several sections of adult GIFs, stories, graphic files, and even short, downloadable QuickTime movies. Sadly, there is no Justine, only Amy in Cancun and other movies Zardoz provides. Using TeleFinder User (or Pro), you are able to view PICT thumbnails of a frame from the movies and view the GIF files online so you know what kind of trouble you're in if your spouse comes into your

office, looks over your shoulder and asks, "What 'ya doing honey?" Zardoz warns children to hang-up in the logon message. That'll stop the little thieves.

The bellowing and references to obscure scientific theory in the more zealous discussion sections tend to be affected, but isn't that what happens when you force yourself to be free? But it's all for a good cause, the doomed struggle to exercise secular humanism's last gasp of vitality. For in this post-modern age, where even enlightened libertines who are sincere about knowing the truth can't get any respect, the Freethinkers BBS is a throwback to a bygone era. Indeed, the modern project is alive and well (for now) in Miami. Freethinkers BBS: P.O. Box 661133 Miami Springs, FL 33266-1133; (305) 863-0830 BBS.

[Bill Gram-Reefer, based in Concord, CA, is president of WORLDVIEW, specializing in connectivity and communications. Bill has been writing about Macintosh computers since 1984. E-mail Bill at: wk05156@worldlink.com - Editor]

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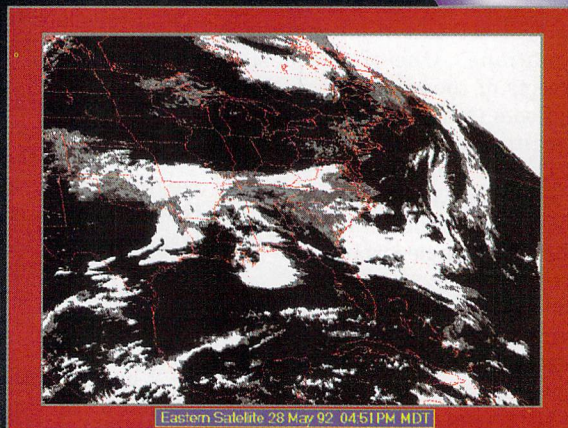
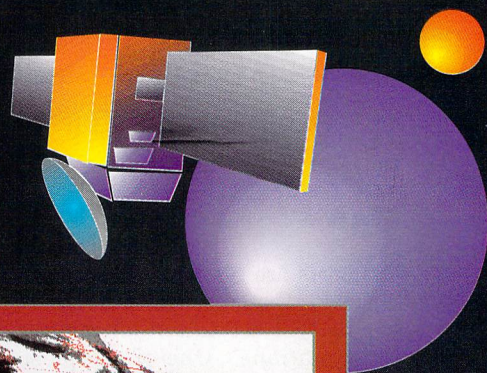
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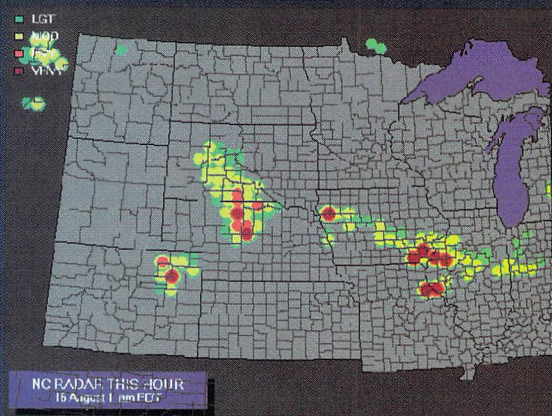
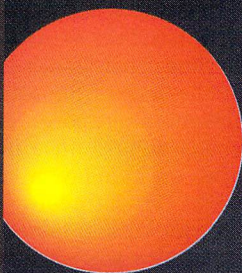
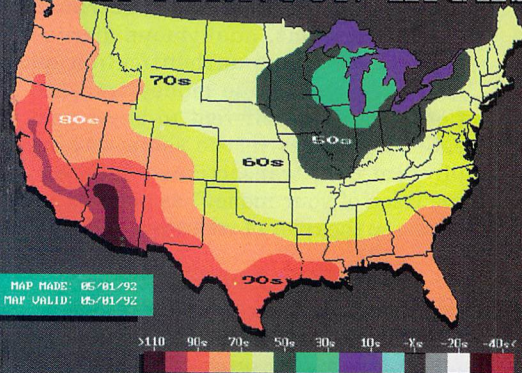
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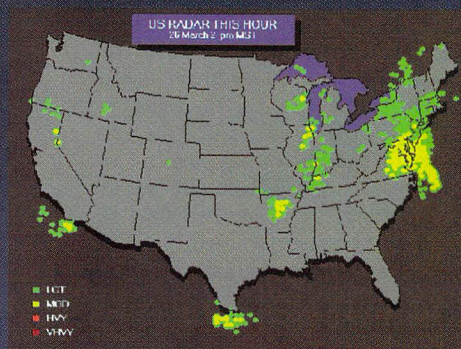
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LITTLE GOVERNMENTS IN CYBERSPACE

by Lance Rose

Most of us are familiar with fractal imagery, those colorful pictures of the Mandelbrot set and other mathematical equations. One of the most striking aspects of these images is self-similarity. Zoom in on any small detail of such an image, and successively smaller, highly detailed images will spring up. Each new image contains the same picture elements as the larger images, recombined in new ways.

So it is in the developing online universe increasingly referred to as "cyberspace." The earthly governments, especially (but not only) that of the U.S., have their hands all over cyberspace these days. They're poking and prodding it into funny shapes to accommodate the needs of a thousand political agendas, most of them led by folks who think "online" means someone missed his tennis serve. But even as the external manipulations continue, small new governments and other associations are budding within cyberspace like a scattering of brightly colored mushrooms clinging opportunistically to nutrient-poor surfaces. These associations are forming in barely sketched-out worlds mediated almost entirely by printed texts, transmitted on a lazy virtual track far slower than the relentless pace of the realtime physical world.

Like fractal images, these new associations are made of many of the same pieces as the earthly governments and associations, fitted together in subtly different ways. They're formed for the same reasons people always band together in governments: to organize how people will work together to achieve goals valued by the group; to protect people from outrageously unfair treatment within the group; and to protect those within the group from aggression by outsiders. But conditions within cyberspace, and peoples' needs arising uniquely within it, are leading organically to new kinds of governments with surprising new features. This is all at a very early stage, of course, but we can already discern fascinating new possibilities in some of the now-forming cyberspace governments.

One early example of a successful online organization, which I have observed and participated in for years, is the Association of Shareware Professionals. This group, the largest trade/professional organization in the shareware industry, runs continuous, round-the-clock board meetings on the CompuServe Information Service. While it was not specifically planned that the group would exist primarily online, the ready familiarity of most shareware developers and distributors with computer bulletin boards made this a fait accompli. Recently, the ASP board confirmed explicitly in the bylaws that participating in the online discussions is a necessary qualification for all directors.

What does the continuous board of directors meeting look like? It takes place in a private area on CompuServe accessible only to the board's members and advisors. Discussions occur in an online conference setting, as distinguished from realtime chat, though this does not prevent the board from acting with sometimes frightening speed. It is entirely typical for debate on a new subject to come up on Monday, a vote on the subject announced on Wednesday, and the vote taken and tallied as we swing into the weekend. In the history of private associations, this is unprecedented, equivalent to breaking the speed of light. That's in the best of circumstances, of course. Just like other groups, the ASP can get bogged down in political differences and quandaries, reducing the decisive speed of online communications at such times to an untapped, but always ready, potential. There is also a primitive form of direct online democracy among the ASP's membership as a whole. On a variety of sensitive or debatable issues, the board holds straw votes among the general membership online to guide the board's decisions.

The ASP, by operating through a widely available online information service, has created an international organization operating at a pace and efficacy unmatched even by local block associations of next-door neighbors. The only remaining offline aspect of the group's governance is general membership voting on fundamental matters like electing directors and setting voting rights and membership dues. The ASP's offline administrative office and paper newsletter publisher handle these

votes by a direct mailing to all members, including those who do not participate online. But this is a less significant allocation of power to the offline members than it might seem at first. The issues presented for member voting are debated and framed online, reducing offline members' involvement to yes/no votes on fully framed issues. And the offline members are left out entirely from the informal straw votes that regularly guide board-level decisions of major importance.

Another group meeting online is the Cypherpunks (I'll capitalize their name even though I'm not sure they would), who promote private access to powerful encryption technologies. Such technologies enable a variety of activities held by the Cypherpunks to be socially valuable, including truly private electronic communications, anonymous discussions, dependable authentication of messages, and online money transactions that are indifferent to buyer and seller identities in the same way as physical cash transactions ("let's see the color of your money" as opposed to "let's see the color of your eyes").

The Cypherpunks have their own continuous discussions going in one or more Internet mailing lists, another non-realtime group conferencing format. Unlike the CompuServe-only forum used by ASP, mailing lists stretch across the entire galaxy of online systems connected to the Internet, including inexpensive and free accounts available at Universities as well as CompuServe and all the other large online systems. Thus, the Cypherpunks' discussions are readily available to a far larger group than the ASP's, though the mailing list format is somewhat inflexible for organizing simultaneous discussion of various topics compared to online conference areas. There are also Cypherpunk newsgroup discussions on Usenet.

These Internet organizational devices are fairly obvious and in use by quite a few groups these days. But the Cypherpunks, a bunch whose middle name is technically astute, are now on to something far more advanced. One of the newer capabilities of the Internet is real-time transmissions of audio and video signals. Video requires bandwidth that pushes the capabilities of the current Internet system. Hence it is currently expensive, and is used only on

special occasions by well-heeled companies. But an audio hookup, while also bandwidth-intensive, is far less so, and within the reach of the Cypherpunks via the **mBone**, which stands for **multi-cast backbone** (courtesy of UUNET, an Internet service provider company).

With mBone capabilities in hand, the Cypherpunks are now setting up national sound-and-text conference events for their participants. They need to hold special events, rather than continuous sessions like the ASP's online text meeting, for three inescapable reasons: First, setting up mBone sessions, still a big deal on the Internet, costs extra and is currently done only on a temporary basis. Second, since the oral discussions take place in real time, all the participants have to be online simultaneously. Third, only computer systems with their own high-speed Internet connections, plus a multimedia-style sound capability, can be used for the audio hookup. Consequently, there is a fair amount of planning involved, including designating the mBone-capable sites in each city in which the meeting participants will gather for each event. The critical need for major event planning like this will die out over time, as high speed lines and audio capability go way down in price. In the meantime it has a salutary side effect. Each national audio/text Cypherpunk meeting is also a physical meeting for the participants gathering at each site. This is, whether by accident or design, a wonderful way for the Cypherpunks to achieve greater coherence, focus and longevity as a group.

The actual meetings sound like a lot of fun. They're conducted in both text and audio, and organized so individual speakers get a chance to be heard. A virtual "room" is set up, with a "seat" for each participant. The room is designed so that you can talk directly to the person on either side of you, but not to others, just like in a real meeting room. And amidst all this technowizardry, business gets done. The Cypherpunks' mBone meetings are an early forerunner of the full-video telepresence meetings that the major phone companies are promising us all a few years down the line. Unlike the phone company ads, though, these meetings are more than a consumer's wet dream. They are an important part of the operation and governance of an intriguing and growing group of online citizens.

Another angle on virtual reality and government was examined recently by

writer Julian Dibbell in the *Village Voice* (December 21, 1993 issue). The article, somewhat misleadingly titled "A Rape in Cyberspace", relates some dramatic events that took place several months ago in a MUD called LambdaMOO. For those not familiar with the terminology, "MUD" means "multi-user dungeon", a real-time multi-user activity that can be found at various Internet nodes. As the term "dungeon" implies, MUDs are often designed to resemble popular role playing fantasy games like *Dungeons and Dragons*. Many players can log in at once from all over the net, acting through personas of their own choice and creation. At this early stage the technology, MUD worlds are constructed, supported and mediated entirely in words. Think of a multi-player, networked version of the early, text-only Zork games. A "MOO" is an object-oriented MUD, enabling greater power in constructing imaginary worlds. LambdaMOO is a particularly advanced MOO maintained on a Xerox PARC computer, the same research outfit that cooked up icons, desktop metaphors and other familiar features found in almost all personal computers today.

The members of LambdaMOO congregated informally, with little by way of rigid social structures. Hanging out in LambdaMOO was like being at a party, sustained in large part by the extensive leisure time available to college students obsessed with exploration of social interactions in any and all forms. One day a new participant showed up, appearing as a grotesque clown named Mr. Bungle, and soon after the "rape" occurred. The Mr. Bungle character had at his disposal a technique, appearing in the MOO as a "voodoo doll", that enabled him to supersede other MOO members' self-descriptions of their actions with his own descriptions. These substitute descriptions would appear to others as if they were the genuine actions of the targeted members, with the targets helpless to correct the misimpression. Mr. Bungle proceeded to put several characters through descriptions of highly embarrassing sexual conduct in front of the other members, and continued until someone came by with a program capable of forcing him out of the system temporarily. Almost immediately, MOO members called passionately for Mr. Bungle to be "toaded". This is another term derived from role-playing game terminology, and in LambdaMOO it means the termination of MOO access privileges for Mr.

Bungle's account — in other words, killing the character.

There was a little problem with toading Mr. Bungle. The power to terminate member accounts was reserved to the "wizards" (the equivalent of BBS system operators). They had declared earlier, before the Mr. Bungle event, that toading and similar drastic actions would not be taken unless it was clearly the collective will of the LambdaMOO membership. There was no existing organized structure for expressing the members' collective will, so this meant the members would have to self-organize a government just to convince the wizards to toad Mr. Bungle. And to eject the shameful Mr. Bungle, they did. As it happened, Mr. Bungle received his wizardly toading before the process was finished. But a few weeks later, a democratic voting system was established on LambdaMOO, and members began holding votes on important group issues and rules.

Thus, an online government was formed within LambdaMOO to respond to the unacceptable behavior of one of its members. In his article, Dibbell pointed out that many of the LambdaMOO participants were devoted anarchists. Yet when Mr. Bungle made his move, some of them shouted as loudly as the rest to toad him, and pushed to form a government when it was established that was the only way to exercise the toading power. Like earthly governments, the LambdaMOO government persisted after the precipitating cause of its existence was disposed of. It became a general instrument for self-governance of the LambdaMOO populace, for better or ill.

So far, we have looked at online associations formed to meet the peculiar needs of well-defined groups of online citizens. In the meantime, a loose-knit group of lawyers and government scholars is casting the question of online government in broader terms: can (or should) online citizens form cyberspace governments with a sovereign status equivalent to the existing national governments?

One immediate benefit to such online governments is that they can do an end run around some of the stickiest legal questions for online activities today: the horrendous choice-of-law and jurisdictional questions that pop up when people from different states and countries find themselves in online disputes. So far, those claiming injuries

from the online activities of others have freely sued in the physical court most convenient to them. For example, a defamation lawsuit was recently started in Washington, by a Washington company claiming it was libeled online by a Kansas City stock broker. If this doesn't strike you as a problem, think about it: every time you go online, you're at risk of being sued anywhere in the world if you do anything arguably illegal, or even just get the wrong guy mad at you. Choice of law conflicts can be even more confusing. If you run a BBS containing adult materials that are perfectly legal in your physical neighborhood, can state or federal agents calling in from more restrictive out-of-state communities start criminal actions against you under the laws of those communities?

By moving to online government, participants may be able to carve out a sphere of activity shielded from such problems of many laws. For certain designated activities, only the online government's single set of laws would apply, and violations would be handled only by that government's own tribunal. This can create a far better and more stable understanding of social rights and wrongs online than we see today, a predictability of treatment that could enable many online operations to flourish as never before.

The bigger promise of online governments is to set up new alternatives to the traditional sovereign governments of today. People can experiment with new forms of direct democracy, organized anarchy, or even see if socialism works better in cyberspace than in the physical world. There are few limits to the forms of association online citizens can choose for their internal governance.

There are major questions about online governments, as well. On the broadest level, will they persist for the long term? Or will they be no more than temporary safe havens, mere closeted respites from the permanent and too often unsatisfactory grind of earthly governments? The latter destiny is suggested in the book "T.A.Z." by Hakim Bey. In his view, T.A.Z.'s, or Temporary Autonomous Zones, are all we can hope for in the face of the repeated and permanent failure of mainstream governments to provide for our social and spiritual needs. So even if superior online governments do not achieve permanence, perhaps it will be enough to celebrate our minor online utopias when we have them, and move

on to form others when existing ones die out.

Are there necessary limits to an online state's sovereign powers? In the physical world, each national government reserves to itself the choice of whether or not to respect the laws and desires of other countries. What realistic options are there for members of an online association to resist the power of physical states, backed up by guns and jails? It may be that a precondition to effective online sovereignties is that they must appear reasonable to the governments of the physical world, to assure that the physical governments won't dismantle the online groups at their whim. For instance, what if technical information regulated by U.S. export restrictions is transmitted within the bounds of a cyberspace government, but such transmission also crosses the border from the U.S. to a prohibited foreign earthly country? If U.S. prosecutors come after the online government and its citizens to enforce the export laws, is there any way the online citizens could stand up to them, or would they be compelled to cooperate with the earthly authorities to maintain the viability of their online existence? I strongly suspect the latter.

This could mean, for instance, that down the road major online associations should join or at least comply with the international Berne copyright convention, assuring that their treatment of copyright violations accords with that generally accepted in the rest of the world. Various other forms of self-policing would further encourage physical governments to keep their hands off online society. And where an online government reaches the limit of its powers, such as where a citizen of the online government injures someone not a member of that government, it probably should not attempt to wrap itself up in some kind of diplomatic immunity. A better bet for survival would be to cooperate with physical governments in their enforcement of laws against that person. At the same time, too much cooperation could make us question why we bother with online government at all: is it just becoming an unofficial online arm of the state?

Another question is where do we find the borders between online and offline government? Will there need to be an official host system to serve as the portal to the online state? Or can a number of governments be dispersed throughout the same piece of net, so that individuals' identities as citizens of

a given online government collectively substitute for national borders?

Amid all these questions, it is clear that going online does not mean escape from all governments. People online organize as readily, and for the same reasons, as they do offline. At the same time, it can be at least a temporary relief from the daily regulation and inanity of our many offline governments. A chance to experiment with new forms of social organizations. Who knows, maybe we could export some of our online discoveries and improve our governments in the outside world.

[Lance Rose is an attorney and writer practicing high-tech and information law in Montclair, NJ with the firm Lance Rose & Associates. He can be found on the Internet at elrose@path.net, and on Compuserve at 72230,2044. He is also author of SysLaw, the legal guide for online service providers, available from PC Information Group at 800-321-8285. - Editor]

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DO-IT-YOURSELF DISCUSSION GROUPS; CUSTOM FORUMS ON DELPHI

by Walt Howe

Do you agree with Rush Limbaugh and his views? Do you want to share your views and discuss what should be done with the country with like minded people? Then do as one Delphi member did, start a discussion group, call it DITTOHEADS UNLIMITED, and open it up to everyone to join.

Or do you disagree with everything that Rush Limbaugh says? Then do as another Delphi member did and start up a Forum called FLUSH LIMBAUGH and invite like minded people to join you in your group.

One of Delphi's unique features is its Custom Forums. For a small setup fee (\$29.95) and a smaller monthly fee (\$5), which is waived if you attract enough people, anyone can start up a Custom Forum on any topic. The Forum can be public or private, and the Forum host has the ability of a sysop to run the Forum as he or she sees fit. If a Forum grows enough, it can take its place alongside the large Special Interest Groups (SIGs) on Delphi.

The Custom Forums appear in the Delphi menu system. Each custom forum has a message base broken into various topics where all who visit the CF can read and post messages. There is also a live conference area which can host multiple simultaneous conferences. The hosts can add a database for downloads, a polling area to sample opinions, and put selected topical Usenet newsgroups from the Internet onto the menu, too.

The latter feature of putting selected newsgroups into Custom Forums is a way to help organize the chaotic world of Internet newsgroups, which is approaching 8000 different topics around the world these days.

Ed Solomon (username ADVENTURE) runs a Custom Forum titled Adventure and Recreational Sports Forum. His is an excellent example of what a member can do with the tools Delphi provides to build a resource

center that will attract people. He developed a newsgroup menu for his Forum that pulls together a lot of resources into one place that took quite a bit of research. The screen pictured here is just the first of three screens. The following screens include newsgroups ranging from **alt.boomerang** to **rec.sports.paintball**.

Usenet Discussion Groups		
Page 1 of 3		
1	PERSONAL FAVORITES	Menu
2	ACCESS ANY NEWSGROUP	Usenet
3	MENU: New User Topics and FAQs	Menu
4	MENU: Delphi's Main Gopher	Menu
5	MENU: Skiing Groups	Menu
6	MENU: Bicycle Groups	Menu
7	MENU: Motorcycle Groups	Menu
8	MENU: Aviation Groups	Menu
9	MENU: Water Sports Groups	Menu
10	MENU: Hunting/Fishing Groups	Menu
11	Running (rec.running)	Usenet
12	Triathlons (rec.sport.triathlon)	Usenet
13	Backcountry (rec.backcountry)	Usenet
14	Camping (alt.rec.camping)	Usenet
15	Australian Bushwalking Group (aus.bushwalking)	Menu
16	Fencing (rec.sport.fencing)	Usenet
17	Martial Arts (rec.martial-arts)	Usenet
18	Aikido Information Archive (UCSD)	Menu
19	Climbing (rec.climbing)	Usenet
Enter Item Number, MORE, ?, or EXIT:		

As of this writing, there are 166 Custom Forums on Delphi developed by members, and the number is growing rapidly. Some of them are completely private, open only to members of the organization that created the Forum. Small businesses without their own Internet connections have found the format useful for employees on the road to keep in touch and exchange files, for example. But the large majority of Forums are either open to all or are open upon application.

Some 15 to 20 of the groups are support groups for people working through problems: drug abuse, family violence, sex abuse, addiction to sex, personal tragedies, and divorce, for example. Like the more traditional forms of therapy, people can help people through electronic media, too. It provides support in ways that can reach right into the home at all hours of the day.

Another 30 or so groups deal with interpersonal relationships in other ways. These range from bringing together people with common interests in politics, in sexual orientation, in alternative lifestyles, in heritage, in community concerns, to those who are just comfortable with the atmosphere that the host creates and builds upon. You may find the host has created the atmosphere of a comfortable living room where friends can relax together.

Or you may find the atmosphere is a neighborhood saloon. There is even an ONLINE NATURIST CLUB where, the members insist, they always sit nude in front of their computers when they participate.

Common interests in the arts and media makes up another category that encompasses some 15 to 20 groups. These groups are concerned with TV, music, books, and other communicative media.

Another 15 or so groups concern games and sports, from bragging about the golf game to participating in fantasy roleplaying to actively playing chess, bridge, or the Japanese game of go.

And then there are about 15 groups that deal with various aspects of computers and technology. These help to fill gaps missed by Delphi's major Special Interest Groups. And there are about 15 professional interest groups that range from nursing to teaching to weather forecasting.

There are also many more forums that do not categorize neatly, but represent a wide range of interests. A very appropriate example is the TEXTILE ARTS FORUM. One of the earliest examples of programmed machine control was the in production of textiles. This is an area that draws from the first industry to create and take advantage of computer programming and techniques.

TWO NEW GUI'S ON THE WAY

Delphi's biggest weakness currently is behind-the-times online editors. The simplest editor mimics a typewriter keyboard, lacking word wrap, and any ability to go back and correct errors in a previous line. Much more powerful editors are available, but they are poorly documented and require a difficult learning process. Alternatively, many people use a shareware package called D-Lite for PCs and Macs, which offers offline message handling with a good editor, comparable in some ways to TAPCIS for Compuserve. Delphi users can find more about this in the D-Lite Forum (type GO COMP DLITE).

Delphi expects to deal with the editor problem in the very near future, perhaps by the time you read this magazine. A new transitional Windows

Sampling of Custom Forums

- 13 THE ONLINE NATURIST CLUB
- 22 IN FULL VIEW — THE OPEN CLOSET
- 23 LES CHAT
- 28 THE EDGE (OPEN)
- 29 BONDING PLACE
- 30 SHOOTING THE BULL
- 31 POLITINET (OPEN)
- 34 THE FURRY FORUM
- 38 THE TEEN/YOUTH FORUM (OPEN)
- 39 HEARTH & HOME (OPEN)
- 42 THE CHAT CLUB
- 50 ROISSY
- 54 OPEN HOUSE (OPEN)
- 60 BUILDING COMMUNITY (OPEN)
- 64 THE RELATIONSHIP FORUM
- 65 THE YELLOW SUBMARINE
- 67 BOB'S CAFE
- 82 FLUSH LIMBAUGH (APPLICATION ONLY)
- 88 DITTOHEADS UNLIMITED (OPEN)
- 92 THE FAMILY FORUM (OPEN)
- 99 PEN PALS (OPEN)
- 107 FRIENDS WANTED (OPEN)
- 112 ANIMAL RIGHTS AND VEGETARIAN LIVING (OPEN)
- 114 ZEITGEIST (OPEN)
- 116 LAVENDER WOLVES FAMILY HOME
- 117 RIGHT THINKERS (OPEN)
- 118 PINK HIGH HEELS (CLOSED)
- 124 IRISH ROOTS
- 143 MEN AND WOMEN — ARE WE TOO DIFFERENT? (OPEN)
- 146 YOUNG SCHOLAR ONLINE (OPEN)
- 147 LIVING HEALTHY (OPEN)
- 148 THE MOMMY TRACK (OPEN)
- 149 THE ORDER OF REALITY (APPLICATION ONLY)
- 160 THE LADIES ROOM (APPLICATION ONLY)

based interface, now in beta testing, was demonstrated at the Boston Computer Society Megameeting on April 9 and 10. The new interface features automatic login, customizable point and click menu selection, a good text editor with cut-and-paste features, special Internet features, and automatic signatures and tag lines. It will not replace D-Lite's offline processing

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strengths, which many will continue to use.

This is just the first step. A much more powerful interface is actively under development for release later in the year, initially for Windows users, with the Macintosh to follow. Delphi has pledged to make the details of the interface open for software developers. Delphi has also stated an intention to keep the present character based interface available so that those with older computers, other operating systems, or the visually handicapped can continue to use Delphi.

DELPHI DROPS STORAGE CHARGES

Delphi announced a new policy on user workspace and storage, effective on April 1, 1994. Members are no longer charged for excess storage of mail and files in their workspace. Instead, mail and unnecessary files are automatically deleted after a time interval. Unread mail is retained for 30 days, mail that has been read for 7 days, and files in workspace, only 48 hours. These are minimums, and the actual

deletions may be at longer intervals. Certain files are exempt from deletion, including mail distribution files, saved gopher and newsgroup pointers, and certain files used in playing online games. There are no stated limits on message size or the amount of mail or files to be held at any time, but Delphi reserved the right to deal with really extreme cases.

DELPHI TESTING 9600 AND FASTER SPEEDS

Some lucky users with fast modems have observed that they get downloads at 9600 or faster speeds, even though Delphi has never officially announced a speed faster than 2400. Those using Sprintnet or Tymnet 9600 lines until now have found that speeds are throttled back to about 4800 bps. Delphi has been testing full 9600 speeds over these lines recently, and during the tests, a portion of users each day were getting the full speed. The speed tests turned up some problems in decreased reliability of downloads, so the speed tests were delayed while software was debugged for the speed. Observers have noticed, however, that while the Sprintnet and Tymnet speeds were on-again/off-again, a direct dial to 617-492-9600 in Cambridge, MA was producing speeds up to 19,200 bps.

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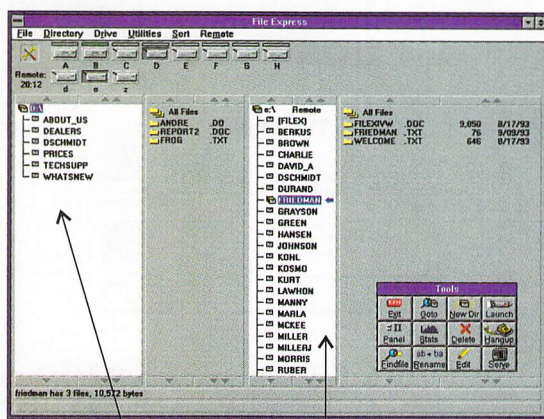
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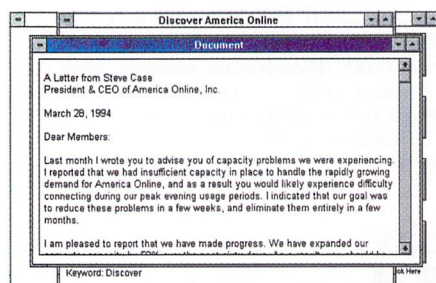
AOL HAS GONE INTERNET!



by Dave Tennant

Years ago John Naisbitt wrote in his book "Megatrends" that the "high tech" trend for the future would also necessitate growth in "high touch." As the computer industry has developed and matured the watchword of user-friendly, first epitomized by Apple and the Macintosh computer, has become more and more of a reality. Even though the universe of cyberspace is vast and unexplored, "Communities" are popping up and developing a culture all their own, exploring and meeting, talking and sharing, making friends, trading help, creating and expanding new definitions of the term "online community." That's one of the things I very much like about America Online; even though it is experiencing terrific growing pains, all the people at AOL, and particularly the president Steve Case, are keeping their eye focused on AOL as a community.

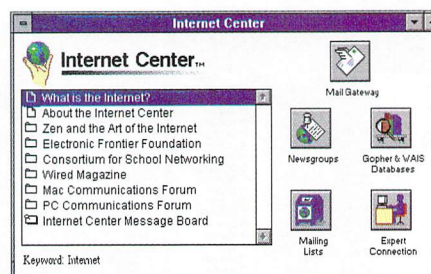
One of the frequent options at the AOL Welcome screen is to read a personal letter from Steve to all the AOL readership, describing the difficulties and joys of growth, the excite-



ment of new projects, the new vistas they are exploring, or giving proper perspective on the latest rumors swirling around. These letters let you know there is a person behind all of this, someone who has a driving vision and cares enough to let you in on it and even share in its growth. That kind of "high touch" is important, especially as AOL expands its service to an area I have found particularly user unfriendly - the Internet. If you get a chance, check out the Welcome Screen section called "Discovering AOL." There you'll find Steve Case's letter. Another section is called "What's Hot This Month" (keyword is "Dir of Services"), and the Guided Tour is worth going through as well.

AOL AND THE INTERNET

Almost everyone by now has heard of the vast "information super-highway" (the term the national press is suddenly beating to death) referring to the Internet — that connects anyone with a computer and a modem across the globe to information, resources, and other people. AOL has recently added The Internet Center, a unique GUI interface frontend to what would otherwise be a pretty intimidating UNIX command prompt. (Interestingly enough, near as I can



tell, this is the only trademarked forum on AOL.) From AOL's Internet Center you can access two and 1/2 of the Internet's most popular features — electronic mail, mailing lists, and newsgroups. The support for newsgroups is only about half done. According to AOL, coming in the next few months the Internet Center will expand to provide better access to newsgroups including a super useful "search all newsgroups" option, and user friendly access to Internet databases.

WHAT IS THE INTERNET?

Anyone reading this magazine probably already knows the answer to this question, but for the sake of clarity, I'll forge ahead. The Internet is the world's largest computer network. Although it was founded over 20 years ago as a US military research network and was expanded to connect mostly academic institutions, an estimated 20 million people (and growing) from all over the world now use the Internet. Unlike AOL, CompuServe, or Prodigy, the Internet is not centrally owned and operated. It's constantly changing, so it can be hard to figure out what resources it has, and how to get to them. (By the way, a White House official, George Stephanopolis was recently quoted as saying "I'm not sure who owns the Internet.") Someone should tell this twerp, "we" own the Internet, which is actually nothing more than a state of mind.

Because "our" Internet was not developed for consumer use, it can be very hard to use — especially for the majority of us who have been "spoiled" by the simple point and shoot graphics of Windows and the Macintosh. What's more, unless you are associated with an academic or research institution, (or you have the bucks to pay for it) it can still be hard to get connected, because the TCP/IP interface stinks. (Oh-UNIX geek priests, forgive thy sacrifice.)

AOL's Internet Center is being designed to overcome these obstacles, which are hopefully not insurmountable. After all some success has already been achieved with TPC/IP software for Novell network and dial up SLIP and PPP clients. Thanks to the Internet Center, users of AOL can navigate the resources of the Internet similar to any other part of America Online. Even better, so far, the Internet Center is included at no extra charge in the America Online membership fee.

WHAT'S ON THE INTERNET AND HOW DO YOU GET IT?

Simply put, "everything" and "with great difficulty." Unfortunately, separating the wheat from the chaff is what it's all about on the Internet.

Basically, the big draw of the Internet is electronic mail, mailing lists and newsgroups. Hoards of files are available on the Internet, but they lack the detailed descriptions and organization of BBBs. Another drawback is the transferring of these files requires the File Transfer Protocol (FTP). Many online users are not yet familiar with FTP. In most cases, when a file is downloaded using FTP it will be transferred to the user's Internet host provider. Then the user will have to use Zmodem to transfer it from their Internet host provider to themselves. An FTP transfer can be done directly to the user's machine, bypassing their Internet provider if the user's personal computer has special FTP Server software. An even trickier method for transferring files on the internet involves UUencoding them into a string of text, imbedding this information in email, and transmitting the messages. Once these messages are received the files are extracted by UUdecoding. The process is cumbersome, but it works.

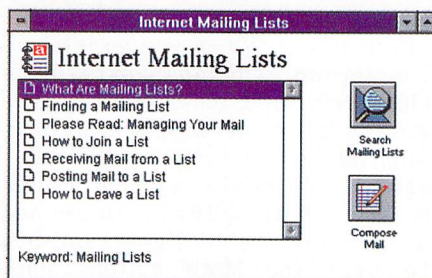
AOL has been tight lipped about how Internet file transfer is going to work. Apparently, they are going to support FTP, because they've said so. With any luck, AOL FTP file transfers will be directly to and from your PC. My sense is that they are also going to build in automatic Uuencoding/decoding into their front-end software. It will probably work similar to the existing feature that can toggle on and off, for automatically ZIPing and unZIPping files after they are downloaded.

Databases on the Internet are a big draw for callers because for the most part, they're free. On commercial online information services, databases are typically offered at a premium. AOL also hasn't yet disclosed the details of their planned Internet databases support.

One of the most popular uses of AOL is email and it's also one of the most popular uses of the Internet. Just as you can use America Online to send electronic mail to other members, you can send email to anyone who is connected to the Internet — whether or not they are an AOL member. If you have friends or associates who use any of the other online networks — CompuServe, Prodigy, MCI Mail, AT&T mail, AppleLink etc. — you can send them mail easily through AOL. Just use their standard internet

address, such as **jack.rickard@boardwatch.com**. On Prodigy, Internet email requires using their external mail manager. On CompuServe the addressing is a little more complex. CompuServe email addressing requires uses to include the Internet mail gateway name in addresses, such as **Internet:jack.rickard@boardwatch.com**, and **MCIMAIL:jrickard@mcimail.com**.

Mailing Lists are electronic mail "discussion groups" that are exchanged through the Internet among groups of people who share similar interests. You can exchange in an ongoing, interactive discussion with people from all around the world using AOL electronic mail. Hundreds of these Mailing Lists cover almost every imaginable topic: technology, American literature, philosophy, cooking, chess, motorcycling, sports, environmentalism, rock music, lifestyles; you name it, it's there! (ALT.ONLINE seems to have a lot of AOL scuttlebutt.)



Newsgroups, also known as "USENET Newsgroups," are, I am convinced, a wave of the future in online communication (that is assuming we don't get swamped!). I may sound corny to longtime Internet users, but to AOL's 700,000 users (as of March 28, 1994), and the millions of other online users new to the Internet Newsgroups are an exciting new thing. In a way Newsgroups are new to everyone, considering so many new ones are being added each day. At last count there were over 8,500 Newsgroups. And the number is still growing.

Newsgroups are basically the 'Net equivalent of message boards on AOL and BBBs. Like Mailing Lists, there is a Newsgroup for just about any topic you can imagine (and more). Some are moderated some are open. New Newsgroups are added by user request. Adding to some Newsgroups, such as COMP revolve around a special voting process. Other, such as ALT, allow

anyone to add a Newsgroup anytime they want.

Probably most valuable Internet resource, at least to my way of thinking, are the hundreds of free databases of information on a plethora of topics. These libraries (or archives) of information are devoted to topics as diverse as home brewing, NASA news, recipes, Congressional contact information, and the works of Shakespeare. These databases are "indexed," meaning that they can be searched for information using key words and phrases. Since most of the databases are run by volunteers, the quality and reliability can vary from excellent to inconsistent. And figuring out how to search the databases can get complicated. AOL's Internet Center is trying to make it easy to find and use the vast array of Internet databases.

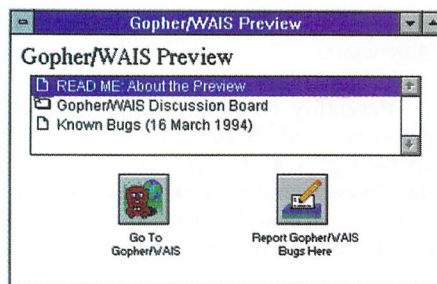
AOL's software libraries are filled with thousand of files — graphics, music, spreadsheets and more — that you can download, or transfer, from the America Online "host" computers to your personal computer. Once the Internet Center's FTP function is working AOL members will have access to the multitude of files and programs on Internet because there are numerous FTP sites allowing anonymous logins.

SO HOW DO YOU GET THERE?

Control K and "Internet" will get you to the Internet Center. AOL is putting everything they have into this section of their service. Here you will find a button called the "Expert Connection" that will eventually take you to AOL's FTP, and Telnet facilities. Telnet is the terminal mode of TCP/IP used to connect to hosts on the Internet.

AOL's official comment is "we haven't announced anything yet." Rumor has it the next releases of AOL end-user software for Windows, DOS, and Macintosh are to include support for TCP/IP and connecting to AOL via Telnet. If this is true AOL will be offering the most seamless and intuitive Telnet/Internet communications.

Also coming soon are Gopher, and WAIS, both online database search utilities. "Gopher" as I understand it was developed by a group of programmers at the University of Minnesota (the gopher is the school mascot) and



combined with the metaphor of “tunneling” through the Internet to find different resources (something you’ll find yourself doing), the term “Gopher” naturally stuck. WAIS (pronounced “wayz”), is an acronym for Wide Area Information Server. There are essentially two sets of WAIS protocols: the public version, which I think is freeware, and the WAIS Inc. (a private company) proprietary WAIS protocols (which are more powerful). There are a couple of other search methods, Veronica and Archie (named after the comic strip characters).

IN THIS CASE - MORE IS LESS

As excited as I am to have a GUI for the Internet, there are some trade-offs. The Newsgroups (Internet conferences/forums) have some problems. AOL expects you to choose a Newsgroup a description. You can choose a Newsgroup by its true Internet name, however, you have to know the name and type it manually. I may be picky, but I would rather see a pick list with the actual Newsgroup name and its description side by side.

Another disappointing limitation is AOL breaks the Newsgroups down into nine major categories — obviously, that’s not all the newsgroups on the Internet). For example, I looked at the newsgroup “Alternative Ways of Looking at Things - 247” It turns out that what they call the ‘Net Name is actually **alt.ofviews**, and this is a very difficult way of navigating through the maze of the Internet, at least for those of us used to AOL’s easy-to-use GUI and long, descriptive file names. If I want to go to the Alt.Online, something or other, I have to go to the first window, “Add Newsgroups,” go to “Alt.Alternate Ways of Looking at Things,” and double click it. But, ALL of the ALT Newsgroups do NOT come up. Instead about 20 Newsgroups are displayed. In order to add to this list a user has to click on the “More” button. In many cases, a user might have to click “More” several times. Although, scrolling is permitted while informa-

tion is being transmitted it is time consuming and clumsy to scroll around (often times having to wait) looking for the desired Newsgroup.

This is a limitation I don’t have to worry about when I use other software for navigating the Internet such as Net Manage’s **Chameleon** or Spry’s **Air** series, both are able to read all six or 8,500 Newsgroups in about a minute. On AOL, if there’s only 20 per window and I want to get down to number 240, I have to click the “More” button and scroll through all those names and screens, a very tedious and time-consuming task indeed. That partial transmit/display with more pending is a feature throughout AOL, but nowhere is it a problem like at the Internet Center.

It gets even worse when you try and read the messages in the Newsgroups. I went into the Newsgroup Online Services and on that day there were 2,470 messages. (I’d like to see the Internet name for the Newsgroup I’m in, but AOL doesn’t provide this information.) When you go into the Newsgroup, it brings you into the oldest remaining message first, so to see the latest message, you have to scroll all the way through to the end — again! You might say that’s good because you can follow the thread and keep track of what’s going on, but because of the “More” button, I have to scroll and scroll and ... well, I am sure you get the idea by now. In order to properly follow what’s being said, people need to read the threads. But that’s tough to do with a typical Internet Newsgroup where there are so many messages and so many different threads mixed together. A thread button, is standard equipment on most BBSes, as is a text search, but AOL doesn’t have these tools, are they would certainly be a help here.

If AOL is to fulfill the promise of a well thought out easy to use Internet Center, they are going to have to add these kinds of features.

Internet forums are unmoderated. There is no Sysop or moderator. If you leave a message and ask a question there may be an avalanche of replies or nothing during the five day period AOL holds Internet messages. (That by the way, is a good reason why reading FAQ’s - the frequently asked questions is a good idea.

Another way to find answers is with AOL’s “Search All Newsgroups” button which promises to be one of the most useful features of The Internet Center. Two questions that remain unanswered: 1. has it been implemented in the best way? 2. When will it be available?

One other thing I’ve grown accustomed to on BBSes is the “quote” and “reply” feature for messages. AOL and the AOL Internet Center lack this feature. This really irritates me. Oh, it is there after a form, going to “Compose Mail” and doing some tricky cutting and pasting. I think what most people expect of a reply feature is to quote some of the text and reply to the author. In the newsgroup article, there is a “Previous” button, a “Next” button, and a “More” button, but no “Reply” button. Granted, they aren’t available on message boards throughout AOL, (only an “Add Message” button), but BBS users and Internet users with the right software, are accustomed to this feature and the absence thereof certainly is damn frustrating. Think about it, no one wants to always have to type out those reeeaaally loooooong Internet addresses. As I mentioned before, you can cut and paste To:, From:, Subject:, etc., and you can quote in the same way and use the “more than” (>>) symbols, but a “Reply” button would be so much easier. C’mon AOL. ;) In fact, all forums should have this feature.

Just in case I’m expecting too much I took a look around at what the other AOL users are saying. While reading through some of the messages left for the AOL people about how to improve the interface, several people mentioned the need for bookmarks which allow you to ‘mark’ a gopher menu item, or an entire menu, and go right back to it at your beck and call. After you make a bookmark, you can go to your own ‘bookmark page’ where you can select any of the marks you’ve already made. It makes for much easier access and navigating. Chris Hill, a member of the AOL team developing the Internet for the service, replied that AOL “didn’t include ... bookmarks,” but assured users that they were working on it.

The other concern I found rather ironic, but understandable. Many voiced the opinion that they would like to have a non-GUI command line interface for the Internet available through AOL. In other words, just

make AOL a door through which to access the Internet, but drop the GUI! Sam R I wrote the following ... "Add my voice to the chorus of those looking for a more "direct" interface with the Internet. Given the vast number of resources, it could prove very frustrating for those who know their way around to have to scroll through endless menus, lists, pull-downs, buttons etc. I'm not saying get rid of the GUI, just give us a choice when it comes to accessing the 'Net. Like the option marked "Expert Add" for adding groups to your USENET list: you can search the lists, or you can enter the name directly. The rest of AOL's 'Net facilities should follow the same basic scheme. Default to GUI, option to go 'direct'."

Nuff said. I think Sam R I's got a good idea. I am going to take the suggestion of a couple of people on the 'Net and check out these books: Brendan P. Kehoe's "Zen and the Art Of the Internet" (Prentice Hall); and Michael Fraase's "The Mac Internet Tour Guide" (Ventana Press). AOL's always been a piece of cake to surf through, but with the addition of the Internet gateway, I better learn to swim, or I may drown.

[Dave Tennant is an Economics and English Instructor in Southern California. He can be reached on America Online at "Dtennan" or on the Internet at dtennan@eis.calstate.edu]

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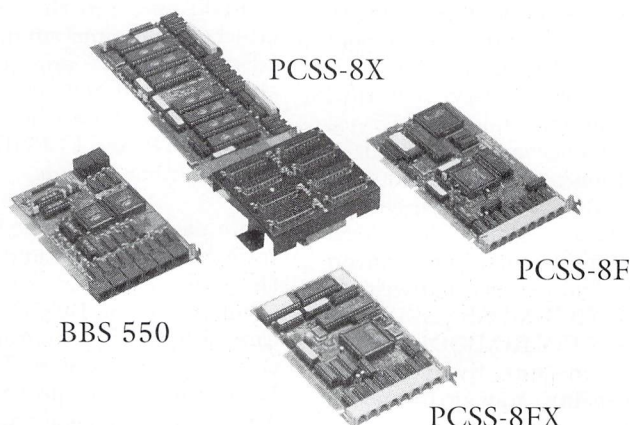
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LOOKING INTO GENIE

by Lenny Bailes

GENIE has long been an information service in the second tier, trying to break into the first rank to compete with the likes of CompuServe and MCI. GENIE's split personality as both a business and an entertainment service has kept it from becoming a recognized leader in either category. GENIE has prodigious software libraries, second only to CompuServe's. It is also a focal point for online gamers, and a haven for hobbyists and professional writers. GENIE's SHOWBIZ, MUSIC, SCIENCE FICTION, and COMIC BOOK roundtables have constant, lively traffic, rivaling similar newsgroups on USENET.

Feeling pressure from other, rapidly-expanding entertainment services, GENIE's architects have promised users a set of graphic front-ends for Windows and Macintosh platforms. The two front-ends have been designed to provide novice users with access to basic messaging and conference functions. They don't provide the off-line navigator features offered by CompuServe Navigator, or GENIE's own DOS-based Aladdin. The Macintosh package can currently be downloaded by GENIE users as a beta-test product. The Windows version is expected to be available in beta next month. Neither package includes the sophistication of America Online's multiple chat windows, or AOL's other advanced interface features.

Like CompuServe and America Online, GENIE now offers partial access to Internet, although its options are the most limited of the three services. GENIE's gateway provides e-mail, but does not include USENET subscription features or news reader programs. You can't FTP files directly to GENIE, but you can email download requests to a sysop (provided you know the site location and name of the file you want). GENIE users have access to USENET newsgroups in a series of compiled digests. A cumbersome system is in place to reply to newsgroups by e-mailing individual postings, but users can't participate in the daily USENET message traffic.

The consensus of most participants in GENIE's INTERNET roundtable is

that the system is currently too sluggish to be really useful as a full Internet provider, even if these services were to be offered. GENIE's maximum connect speed is still limited to 9600 bps, and that access has an attached minimum surcharge of \$6/hr. GENIE users are appreciative of the ability to send and receive email over the Net, but those who need access to Telnet, FTP, and USENET are looking for it on other services.

In past years, GENIE built its reputation with writers and hobbyists as the low-budget alternative to CompuServe and Delphi. The "all-you-can-eat for a fixed monthly rate" policy that was previously in effect built up a large user-base of prolific night-owls. These erudite hackers and media fans were supported, in large part, by GENIE's gamers and business users, who paid a high rate for commercial services. Although the days of unlimited hourly access are over, GENIE's dual daytime/nighttime rate structure still tends to divide its users into two classes — those willing to pay a high premium for business services during the day, and those who log on at night to post messages for their friends or play games.

GAMER'S PARADISE

GENIE has the largest assortment of interactive games of any online service. In addition to TSR and Scorpia text-based adventures, users can play Air Warrior, Battletech, and other interactive graphic-based combat games online. Some GENIE members take Air Warrior very seriously. You can sign up, in advance, for sessions in the Air Warrior Training Academy, whose participants include professional Air Force pilots. GENIE will be adding a new, high-resolution SVGA front end for Air Warrior on MS-DOS machines later this month. Users can also download numerous "historical aircraft" and "terrain" files to spice up the action.

Federation is a science fiction diplomacy/world-building game geared to an older audience. Whereas female participation in combat and adventure games is practically non-existent, almost 35 percent of GENIE's Federation players are women.

Graphic-based games on GENIE require individual front-end/terminal programs that can be downloaded at no charge. The RSCARDS graphics subsystem allows users to play Blackjack, Poker, Chess, Backgammon, and now Contract Bridge. Separate chat and message windows allow players to bid and exchange messages while they view a graphic representation of the table and the layout of the cards. For armchair sports fans, GENIE has fantasy football, baseball and basketball leagues.

GENIE also provides a computer game design round table sysopped by Chris Crawford. Crawford is the author of Balance of Power and several other well-known adult computer strategy games. He is uniquely qualified to provide guidance to fledgling programmer/designers and to provide a congenial atmosphere for discussion.

GENIE ROUNDTABLES

In general structure, GENIE is divided into a series of Roundtables. These include online real-time conference areas, BBS message areas, and software libraries. E-mail and other special GENIE functions are accessed through separate "pages" similar to CompuServe's. Because of the separation of "chat" and "message" areas, you can't send messages to another user online unless you're both logged into the same "chat" area. If someone sends you email while you're online, you don't find out about it until the next time you log in (unless you specifically go to the "Mail" page and run a new check for messages).

The BBS areas are broken down into Categories and Topics where, guided by the topic subject header, users post messages. The hierarchical structure of GENIE's message boards is easy enough to understand, but it lacks some of the sophisticated features available on other systems. Although you can display messages within a topic by date, author, or numerical range, you can't display topics in last-to-first order, or perform keyword searches. Once inside a topic, you must read messages sequentially, instead of being able to skip ahead or back to read individual postings.

The quality of thought and prose that can be found in some of GENIE's

Roundtables is, for me, the strongest selling point of the service. The latenight habitués of forums like the Science Fiction, Writer's Ink, and Music RTs don't need graphic front-ends to create an intriguing literary salon/coffee-house ambience. The MUSIC RT is more than just reviews of CDs or nostalgia for rock and roll legends, although you can certainly find these elements present. Rock and Roll, C&W, Blues, Rap, Jazz, Staged Musicals, and Classical music all have individual areas. Within these areas are categories devoted to bands, clusters of bands, individual composers, and the art of making music, itself — topics on live and studio recording, musical composition, and playing individual instruments. From tips on buying a used flute to essays on the musical meaning of the universe, you can find a wide bandwidth, here, to select from.

The Science Fiction and Fantasy RT is perhaps the largest and most intriguing area on GENie. Originally a catch-all forum for discussion of movies, plays, television shows, and comic books, as well as literary sf, SFRT has spawned several separate RTs to handle its huge overflow of message traffic. The board is now divided into three sub-conferences which literary SF, media presentations, and science fiction fandom and conventions.

Because so many of the participants in SFRT earn their livelihood as professional writers, the idea content and readability of postings is a cut above what you find in similar forums on USENET and other services. There are occasional rowdy arguments, but these usually don't degenerate to the boring, predictable level of USENET and FIDOnet flame wars. Well-known author Samuel Delany has claimed in his critical essays that all of classical mainstream literature is actually a subset of science fiction. A foray into the SFRT just might convince you that this is true. Sure, you'll find people talking about Heinlein, Arthur Clarke, and William Gibson, but you'll also find parodies of William Shakespeare, discussions of Peter Greenaway's films, and debates on nanotechnology, the nature of truth, and the future of duct tape. Online SFRT authors sometimes transform their topics into day-to-day diaries of personal adventures. The 300+ topics devoted to individual SF-writers become the equivalent of small, comfortable room parties at a convention.

OTHER GENIE HAPPENINGS

In addition to its Roundtables, GENie offers a full complement of online courses in traditional academic disciplines. These can be taken for full college credit. Enrichment courses are offered in computer programming, computer applications, business management, investment, law, short story writing, and the 20th Century novel. There is also a GED high-school equivalency program.

GENie's roster of celebrities is less world class than the lineup on Prodigy and America Online, but it does schedule regular events with well-known writers, and RT conferences with experts in various hobby fields. Of all the online services, GENie probably provides the most useful support for would-be novelists and playwrights.

The Jerry Pournelle Roundtable has an impressive collection of computer techies, who deliver insightful hardware and software advice. If you enjoy libertarian debates, you'll find plenty to chew on in the JerryP "Politics" and "Living in the USA" categories. (Users with a nonargumentative disposition tend to gravitate toward GENie's East Coast, Midwest and West Coast RTs, which host similar discussions.)

SUMMING UP

GENie's computer support roundtables are competitive with those on other services. You can often find people online in the IBM and Mac chat rooms, who will pitch in and help you solve technical hardware and software problems. The WordPerfect RT includes a unique collection of downloadable clipart. Weigh these factors against a much higher hourly rate to log into GENie between 8am and 6pm on weekdays, and an additional surcharge on a 9600 bps connection.

Although GENie is predominantly a text-based communication service, it does have some multimedia features. In addition to online games that use graphic front-ends, Livewire, the monthly GENie magazine, is available in a multimedia edition for DOS and Macintosh platforms. GENie's two new general graphic front-ends in beta testing let users move between roundtables, upload and download mail and select conferences online from a point and shoot, icon-based interface. Power-users who wish extensive automated off-line capabilities must

continue to use Aladdin, GENie's traditional DOS front-end.

GENie attempts to duplicate the professional and business services offered by Compuserve. GENie users can access American Airlines' Easy Saabre ticket service, get stock quotes from the Wall Street Journal, or trade online through Charles Schwab's Brokerage Services. For an extra fee, the ARTIST gateway allows text searches on thousands of newspapers, magazines and newsletters. The GENie bookshelf contains records for more than a million books in print. In this, GENie compares favorably with the other major entertainment-oriented services (America Online and Prodigy). But, bear in mind that many of these services are available at a cheaper rate on Compuserve, or free to those who have Internet access through other systems. Since Compuserve's dramatic rate cut early this year, GENie has become a less attractive alternative for those who seek primarily for online reference tools.

GENie is not the service to seek out, if extensive Internet access is your goal, although it may save you money as an Internet mail drop. (There is no "per message" or "per kilobyte" surcharge. You can send and receive unlimited quantities of mail at the fixed hourly rate.)

GENie's online educational options and cultural depth are the strongest of any of the major communication services.

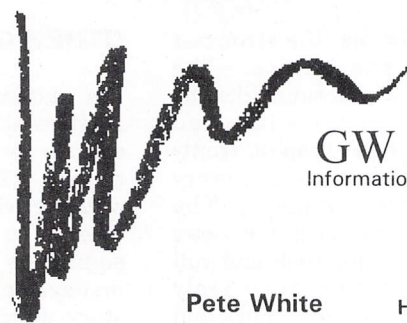
The current GENie subscription rate is \$8.95 a month in the U.S., \$10.95 in Canada. This includes 4 hours of free connect time that can be used between the hours of 6PM to 8AM local time on weekdays, and all day on weekends. The standard hourly charge is \$3 U.S., \$4, Canada. If you log on between 8 a.m. and 6 p.m. on weekdays, there is a Prime-Time hourly surcharge of \$9.50 U.S., \$12.00 Canada. Access at any time to a 9600 bps telephone line entails an additional \$6/hr surcharge, U.S., \$8/hr surcharge, Canada.

[Lenny Bailes is a PC consultant, writer and teacher living in the San Francisco Bay Area. He is a contributing editor for Microtimes, a California computing magazine, and co-author of Byte's DOS Programmer's Cookbook.]

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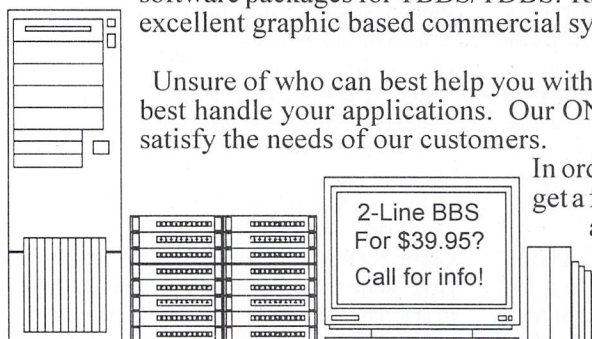
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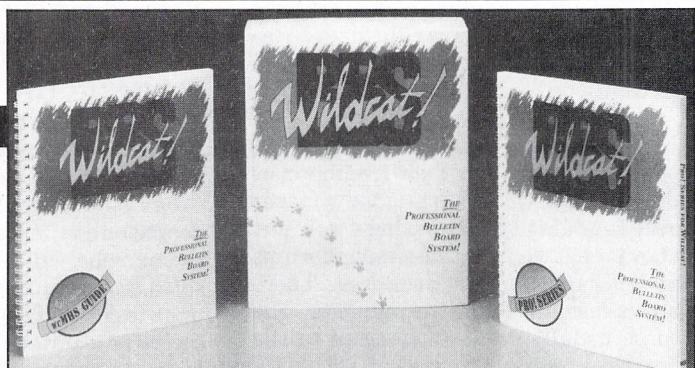
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THOUGHTS OF SPRING

by Charles Moore

Remember the slinky? Well guess what, this month I had the task before me of putting the ultimate spring to the test as part of my ongoing review of product promotion freebies. The fine folks at Prodigy have provided this really classy spring. First I should clarify one thing, this is not really an "official Slinky," at least it was not made by the slinky people. However, do not let this sway any opinion that may be formed because of that fact. Quite the contrary. This is one hell of a spring toy. First let me give you the physical description. Solid brass and very substantial, this is no light weight. Tipping the scales at a whopping 5.25 ounces and measuring a little more than 3 inches across and slightly less than 4 inches in height - we are talking about true spring action and a classy appearance as well. Not only did Prodigy go all out in the construction of this little gem they made sure that the packaging was equally as sharp. How about a solid oak cylindrical box with a brass name plate on the lid bearing the Prodigy logo?...SHARP!

So what's the big deal? Hey, it was free! Well as usual, I decided to get right into this one with both feet and put this "coil o' fun" through its paces. This may have the appearance of a Slinky and even make the same familiar sound that we all remember, but can it take the heat? My first test was not a very good start. I wanted to see if I could transfer the cartoon images from the Sunday paper directly to the spring and then stretch the picture to skew it into a funny shape. As much as I tried to do this it would not work, then I remembered something that may have explained why this was not happening for me. That was Silly Putty not the slinky. O.K. it's been awhile - give me a break.

Then it all started to come back to me in a flash of childhood memories. The stairs. Yeah, that's it! I remember now, it's supposed to walk down the stairs with nothing but a little shove. This was a pretty exciting moment for me because this was the first time that I really had stairs to try it out on. As a kid I was raised in Southern California and we never had a multi-story house (because of earth movement ranch

style houses are pretty much the norm). I still remember those T.V. commercials (that must have been produced back east where everyone has a two story home), and the little kid having a blast watching his Slinky "walk the stairs without a care." Well, this was a trick that, for me at least, was never possible. At best we had a couple steps on the front porch. Well now I have a full flight of steps right in my own home. At last those little kids on the east coast have nothing on me. I couldn't wait. I decided to savor the moment and have some friends over for the big test.

At the top of the stairs I readied myself, placed the spring at the edge of the top step, took a deep breath and gave 'er the shove. After thirty some-odd years of wanting to make a spring walk down a flight of steps I was doin' it! It worked like a charm. Without missing a beat the little spring made its way down the carpeted path and came to rest on the landing. I must admit, I spent the better part of the rest of the evening on my stairway crawling after my new toy. Call it some type of "closure" or something, but sometimes you gotta get some things out of your system.

O.K., so it walks down stairs, isn't that what its supposed to do after all? Yeah, that is a minimum requirement granted, but keep in mind that I'm testing a Slinky here not defining the structure of the double helix. So, what next? I mean that stair thing is a pretty tough act to follow. I really plan on taking one to the Washington monument or the Statue of Liberty some day. Imagine that.

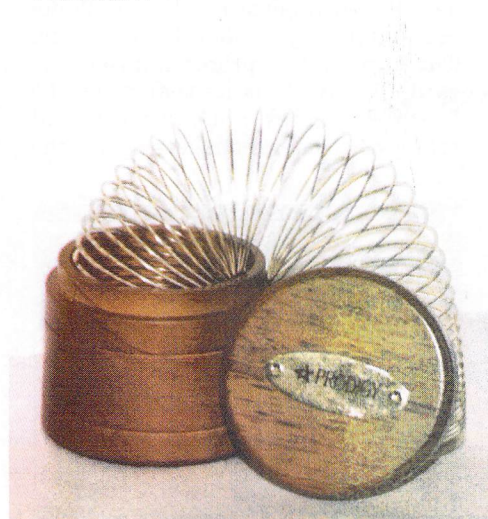
For all of its coil and recoil action, I wanted to see if it could survive a grueling durability test. Did you ever get that little bend in one of the coils when you were just doin' the hand to hand thing? Talk about a major bummer. What the hell were you supposed to do after that happened? The Slinky Kink. Always hated that. I mean, here you are with this spring toy one minute and then the next thing you know all you have is a mess of flat wire that pretty much just sits there. Somewhere there is a pile of kinked springs the size of New Jersey. This is not a biodegradable product. After a couple hours of some pretty heavy hand to hand springing the coil

came through with flying colors. Not a kink, bend, or any other sign of structural breakdown. This is a pretty important feature to consider if you have been thinking of investing in a new spring.

Aside from the standard spring tricks this item deserves some major points for pure aesthetics. I keep it on my coffee table in its oak container and the response from friends has been, to say the least, pretty amazing. People will pick it up and go on for hours about how great it looks and how that shiny brass really enhances the decor of my home. Now keep in mind that these are some friends of mine that did not quite survive the 60s completely unscathed. As a matter of fact, there is still one guy that comes over to "just hold it for awhile and feel the positive vibes." I realize that that may be stretching the value of the spring a little, but we are talking about a guy that can converse with a blender for hours on end.

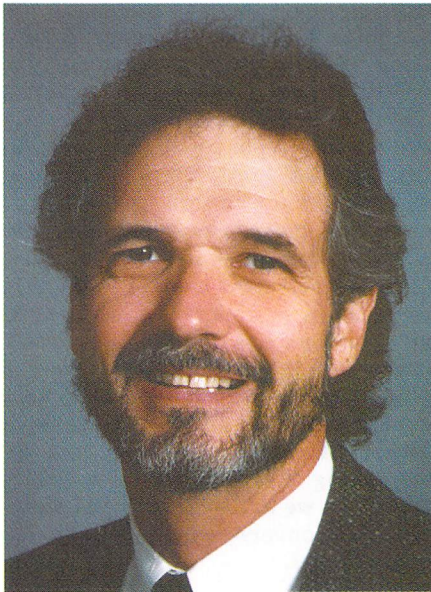
My last observation, is a curious phenomenon that you will find to be true in almost all cases and one test that you can try for yourself. Hand a slinky to someone and watch what happens. The first thing you notice is that they will automatically start doin' the hand to hand trick and if you listen real close they will start to sing the little "Slinky Tune"... "Who walks the stairs without a care and shoots so high in the sky?..."

We don't know where you can get a Prodigy slinky. We're not even sure where this one came from. But they do have a toll-free number at **1-800-PRODIGY**.



ONLINE MANAGERS GET IT ALL, ALMOST

by Ric Manning



Art Dameron watched spring training as closely as any Major League talent scout. But he wasn't inspecting fastballs and switch-hitters for the Marlins or the Mariners. He was scouting for his own teams in two leagues called Boise Summer and the Rude Crew.

Dameron is one of about 2 million people who participate in fantasy baseball leagues. They create teams by drafting major league players, then match their lineups against teams created by other managers.

The fun part is seeing Frank Thomas hit a home run for the White Sox and having it count for your team. The hard part is processing the blizzard of daily statistics that make the fantasy leagues work. Traditional fantasy baseball managers spend the

summer knee-deep in print-outs downloaded from stat services or listings clipped from baseball bibles such as *The Sporting News* and *Baseball Weekly*. But Dameron and the other managers in his two leagues let Prodigy handle the grunt work. Prodigy's Baseball Manager service

Every day, the managers log on and set their lineups for that day's game. Overnight, Prodigy sorts out stats from real games, uses them to calculate the performance of the fantasy teams and has the results posted the next morning.

"There is nothing else like BBM," said Prodigy's Mike Darcy. "You can get other services that offer stats for rotisserie baseball. But there's nothing else that takes actual stats and does a real game resolution."

Dameron, who teaches at a community college in Lexington, Ky., got involved with BBM in 1991, the first year that Prodigy offered it. "I signed up for a half-season league and played until the end of the year," he said. "Then I was hooked."

This year, he'll pay \$124.95 for each of two teams to play throughout the full Major League season. Prodigy also supports Lightning Leagues, which can start almost any time during the season and play 54 games for \$59.95. Dameron's teams have finished first twice in one league and second twice in the other.

The secret to success, he says, is to be involved every day. "One of our fellows took a week's vacation in Arizona and he rented a laptop so he could keep up," said Dameron. "Others who go out of town try to get to a Sears store where the computers are hooked up to Prodigy."

One of the managers Dameron competes against is rocker Meat Loaf, a notorious fan of fantasy baseball. "He logs on from all over the world and sends us messages every day," Dameron said.

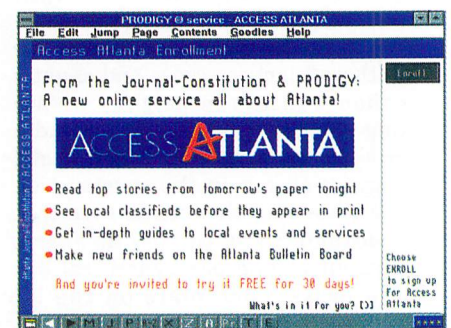
Dameron also tries to avoid spending all of his fictional budget during the player draft at the start of the season. Managers can trade players during the season or buy players that haven't been selected by another team.

Dameron said he's not sure if playing BBM has made him more of a fan of real baseball. He followed the Tigers when he was growing up in Detroit and occasionally checked the team's box scores over the years.

"Now I find myself rooting less for the Tigers and more for my players," he said. "Now it's a whole different game."

ATLANTA GOES ONLINE

The Atlanta Journal-Constitution has become the first newspaper to deliver an electronic edition using Prodigy.



Access Atlanta offers subscribers daily news reports, updated as often as every 15 minutes, generated by a special newsroom that is staffed 21 hours a day. In addition to news, the service also has an information center with movie and TV listings; MARTA and Cobb Community Transit routes; convention schedules; restaurants and nightclub listings; maps of shopping malls, and government information.

Other features include newspaper classified ads for real estate, employment and vehicles for sale. And an Atlanta bulletin board where subscribers can exchange public messages. Eventually, subscribers will be able to search back issues of the newspaper.

Access Atlanta carries a surcharge of \$4.95 a month for Prodigy subscribers. Users of the bulletin boards will pay the regular surcharge for Plus features. The service is also available as a stand-alone product without Prodigy for

The Chicago Tribune and the San Jose Mercury-News had previously



created electronic editions on America Online. Now Prodigy says you can expect to see more papers on its network. Prodigy has already signed agreements with The Los Angeles Times and New York Newsday and Cox Newspapers says it plans to create Prodigy editions in West Palm Beach, Fla.; Austin, Texas; and Dayton, Ohio.

"This is part of our long-term strategy of opening up the network," said Darcy.

REMOTE ACCESS

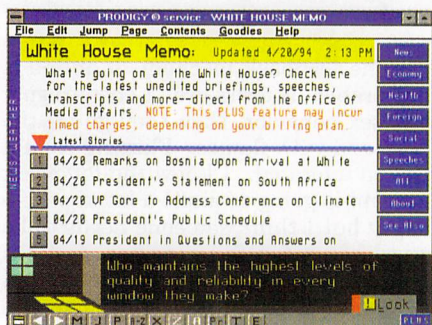
If you take Prodigy on the road — or if you can't reach a local node without an expensive long-distance call — you can now log on using an 800 number. Sign up online for Call Option and Prodigy will give you a special 800 number to use whenever you want. Access through Call Option adds 12 cents a minute (\$7.20 per hour) to your Prodigy bill.

Prodigy's 800 number may not always be the best deal. A typical residential long-distance account, such as Sprint Select, charges between 11 and 13.5 cents a minute for evening and night calls.

But if you're out of town and have to pay a hotel surcharge or use a calling card, Call Option looks pretty good. A 20-minute call using Sprint's calling card will cost you \$6 during the day and \$4.20 at night. A 20-minute call on Prodigy's Call Option will cost \$2.40.

WATCHING WASHINGTON

Government groupies can now use Prodigy to read everything that the White House press corps gets from the Clinton administration. A new section includes unedited briefings, reports, speech transcripts and travel schedules for the President, Vice President and cabinet members.



When cabinet members hit the road this spring to promote the Clinton health care plan, their schedules were posted in the section. So was the President's proclamation of honoring Greek Independence Day.

The White House materials are posted in Prodigy's PLUS section, so be prepared to pay time charges if you read or download anything. And some of the postings can run more than 30 pages.

MORE BUSINESS NEWS

Prodigy has expanded its links with the Dow Jones News/Retrieval service to provide more company news. Users can now call up Dow Jones news stories from the past 21 days rather than only seven days.

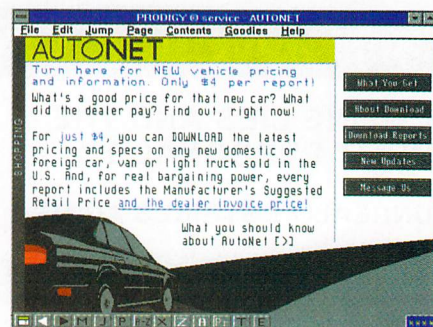
The database of news stories can also be searched by company name, by industry, by news category and for a specific date or since the last time the user logged on. The stories can be viewed online, printed or downloaded.

Prodigy has also linked its stock quote service to the Dow Jones database. When a Prodigy member asks for a quote on a specific stock, the service automatically searches company news and notifies the member if there are any new stories for that day.

WHAT'S NEW

A deal between Prodigy and ESPN will make the sports network Prodigy's major provider of sports news and information. Prodigy's sports sections will appear under the ESPN label and the network will promote Prodigy on the air and use the service viewer polling and feedback. The deal also gives Prodigy access to ESPN's library of photos, sound and video images that can be used in the future when Prodigy offers subscribers access to video clips.

AutoNet is the latest addition to Prodigy's line-up of information about cars and prices. AutoNet, produced by a division of Ziff-Davis Publishing Co., provides new car data such as dealer invoice pricing, specifications, standard equipment and options for every car, van, and light truck sold in the United States. Prodigy's Consumer Reports section also added complete profiles and ratings of 172 new 1994 vehicles.



Prodigy will come to Canada later this year through an arrangement with Southam Inc., a major Canadian publisher. The partners will start by offering access to the existing Prodigy service in Canada, then explore ways to increase content and services of special interest to Canadians. Southam is the largest publisher of newspapers in Canada and a player in electronic information services. The partners are inviting other Canadian companies to participate in the service test.

TRAFFIC JAM

How's Prodigy's link to the Internet doing? Not so well, according to frustrated subscribers who post their plaintive pleas for help on Prodigy's Internet bulletin board. Many don't understand that Prodigy only offers a mail link to the Internet, not full Internet access.

"I do not have a clue about this internet stuff," said one user. "Do I have it or what?? If I have Prodigy am I in the internet?? I seen this thing on CNN about underground bands putting their music on the internet for anyone to download free. Can I do that?? Do I have to pay for internet?? Do I need a phone number or something?? If anyone would tell me what's up I'd be very grateful."

[Business writer and columnist Ric Manning reports on technology for The Courier-Journal in Louisville, Ky. His weekly "Home Tech" column on computers and consumer electronics is distributed by the Gannett News Service. You can reach him on Prodigy at USJM92A, on CompuServe at 72715,210 or on the Internet at ricman@iglou.com]

ONLINE LIES AND THE SPLIT PERSONALITY

UNREALITY STRIKES AGAIN

It was the April issue of *IPC/Computing* where I wrote an April Fools column that would get the attention of the Washington Post, a few US Senators and the Internet Community. I wrote a fiction about a dubious bill (the bill number was 040194 — April Fools day) that would prohibit “drunk driving” on the Information Highway. To make it even more ridiculous I told about how Congress was going to enact legisla-

often redistributed as fact. Most of what comes over the wire are lies propaganda or just urban folklore. The fact that the source originates in a high tech world seems to make information passed over the modem to be more credible than it often is. And our reactions to it are too often wrong.

I recently wrote an analysis of the Microsoft Munchkin phenomenon for Marketing Computers Magazine. I’ve always believed that Microsoft has a corporate policy to send “munchkins” into the online world to promote the company and rag on the competition. There was a recent situation on Will Zachmann’s CIS forum where the disruption caused Zachmann to go ballistic. I noted that on-line personalities take on a life of their own and people seem to slip into a gullible mode when dealing with the online world.

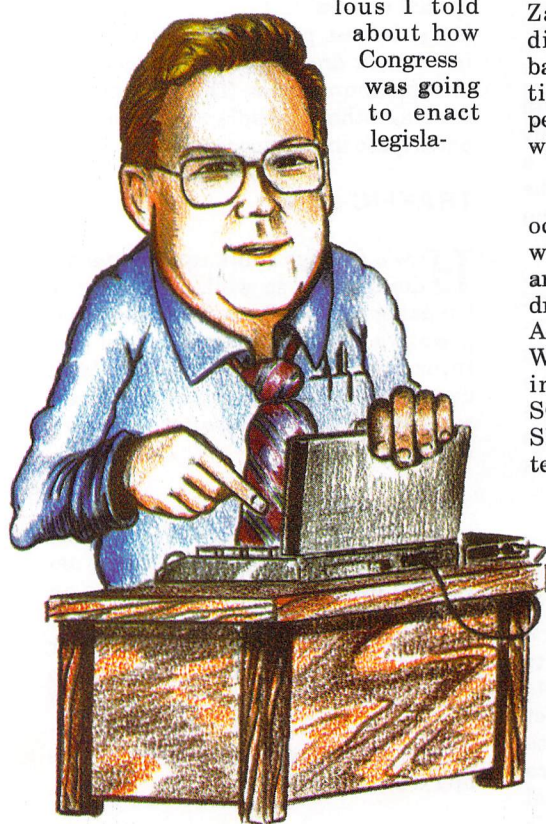
The most unbelievable situation occurred about 10 years ago when a woman calling herself Dee Dub was arrested for a variety of things mostly drug related in the San Francisco Bay Area. Her real name was Diane Worthington. She was deeply involved in a forum on the now defunct SOURCE called Parti or Participate. She somehow got a message posted telling of her unfortunate plight with the evil police. Within hours of her arrest the online community involved in Parti went into a massive debate about why this poor innocent woman — whom none of them had ever seen and nobody really knew — could have this terrible injustice done to her. Within a few short days this large group was up in arms about the injustice of it all and what could they do to help their online friend. To read these messages was a more frightening experience than my school age encounter with George Orwell’s *Animal Farm* or any of the horrible Utopia gone bad tomes that were a fiction mainstay decades back. It was just incredible to see people going off the deep end acting as if this fictional Dee Dub was their sibling. One fellow come on who apparently had some knowledge of the case and tried to explain some of the facts and he was vilified by the crowd. Everyone was in a dream world. They all were convinced that they “knew” this woman — Dee Dub. And, in some odd way they did know her — but it wasn’t Diane Worthington. It was a persona created, made real for the unreal world of on-line.

Anyway as more and more truths about the real situation were revealed the society that was built up in support of Dee Dub decayed in a cynical way with some people acting depressed and vowing never to get involved in any online activities. It was really strange, let me tell you. The group eventually dissolved, many embittered by the whole experience.

This unreality of online communication encourages this kind of nonsense. Anyone who goes online a lot has created offbeat personae. At some point you have to wonder how healthy this is? While a little role-playing is always educational are we not voluntarily making ourselves schizoid? We think it’s weird that Roseanne Barr (Arnold) claims to have a variety of personalities that she had to create to protect herself from the onslaught of demands and sexual aggression. But then we go off and do it to ourselves. The split personality seems to be a part of society nowadays. It used to be an oddity, but now is becoming mainstream. Are online addicts creating a potential personality problem by making themselves into different people? Is the person on CB or on a chat BBS who claims to be into bestiality or some weird oddball sex slowly changing their own nature by this activity? It’s possible.

This is worsened by the ludicrous level of tolerance expressed by other participants. If someone came up to you at the store and as part of the conversation they said that they wanted to have sex with dogs, you’d give them some negative feedback. Wouldn’t you? At least you’d take a step back or show concern for the animals. But when someone online says this, the response is neutral if not actually encouraging. “Oh, dogs? That’s interesting. When did you start getting these desires? Have you always felt this way?” It’s like you’re having a sane conversation with a lunatic. This isn’t normal or behavior that should be tolerated and encouraged.

The feedback mechanism online is deplorable. If users aren’t encouraging odd sex behavior, then they go off the deep end with flames. Flaming should not be tolerated. I know the following concept is going to make a lot of people angry but I think someone needs to be sued big time for slander or libel because of a posting. That would put a stop to it. Even if the posting is anony-



tion to prevent computer sex chatting too.

This exercise in April Fools buffoonery proved two things: 1) that this ludicrous notion was actually believable. This is a pathetic commentary on our attitude toward our government. To think that they are such idiots. But is also proved 2) that we, the users, are gullible.

The on-line community, in particular, accepts far too much on-line gossip and blatant lies as truth. A cock and bull story on any bulletin board, CompuServe, AOL or the Internet are all too

1994 DVORAK AWARDS FOR EXCELLENCE IN PC TELECOMMUNICATIONS

It is that time of the year again. The 3rd Annual Dvorak PC Telecommunications Awards recognizing the pioneers who have significantly advanced the state of the art in personal computer communications will be held this year in Atlanta, Georgia, at the Online Networking Exposition and BBS Convention (ONE BBSCON), August 17-21, 1994). The award ceremony and banquet will take place at the Marriott Marquis Main Ballroom, 7:00 P.M. on Saturday, August 20th, 1994.

This year we are accepting nominations. Several BBSs are advertising the awards, and offering the information file **DVORAK94.ZIP** for download. A few systems have also installed a door program allowing callers to enter nominations online. As of this writing DNIS, Channel 1, Executive Network, DSC, PC-Ohio, Kandy Shack and Aquila BBS (all listed in the Boardwatch National BBS List) have the Dvorak Door online. We expect more systems will have this door soon. In the meantime, think about the people, products, and companies you think should be recognized.

You can also request the information file by electronic mail to **AWARDS@BOARDWATCH.COM** and enter a nomination by e-mail to **389.1702@mcimail.com** or by street mail to:

Dvorak PC Telecommunications Awards
1125 Bramford Court
Diamond Bar, CA 91765

mous, a court order could track down most subscribers to almost any system. Yes, it would be possible to do a truly anonymous posting once in a while and not get caught, but most flames are from known people who can be tracked down by the courts. I'd advise people to be careful about flaming because it's ripe for a lawsuit and if you haven't noticed, our legal system encourages this kind of legal action. But that's a side issue. The point I want to make is that the online community largely encourages and tolerates the worst kind of flaming. Sure a soul or two will claim that the flame isn't good and that they personally "like" the person being flamed. That's about as far as it goes. Most people think the flaming is

amusing. A sick form of entertainment. Hahaha. Gee, I always wanted to say THAT to someone. Repressed hostility — another on line theme along with the need to be schizoid.

So let's see some of the attributes rising like cream to the surface of online use. Gullibility, schizoid behavior, personality change, repressed hostility. Charming, huh? I didn't even mention the addictive aspect to online chatting.

Now it's not as though I have a suggestion as to how online computing would be more mentally healthy than I'm indicating it is. The trend to go online is getting up a head of steam with new services, Internet mania and the GUI making its way into the online world. More and more people are wasting more and more time online for whatever reason. There are no signs that this growth will even slow down let alone end.

One interesting aspect of all this that might be a positive sign is the online etiquette that has evolved over the years. While flames rule the roost in newsgroups and on conference message systems, they are not accepted during real-time conferencing or chatting. There is a certain politeness which I feel is the same unfortunate mechanism that doesn't allow us to criticize the person who wants to have sex with a dog. So what you have is an interesting extreme. On the one hand flames and intense criticism runs rampant. On the other hand a ridiculous level of politeness and tolerance is the norm. There is no middle ground. It's reflective of a split personality too, isn't it? This split personality seems to be a theme here if you haven't noticed.

I have no suggestions for curing it. Neither do I. And I don't either. Ahhhhh!

All I know is that it might be a problem. And I agree. Me too.

Dvorak's recipe of the month

Aspectacular beginning to any dinner party. The two soups in one bowl reflect the split personality of the this months column. I suppose you could also try it with "split" pea soup.

STAR SOUP

Instructions:

Peel and quarter the carrots and potatoes, scrub and trim beets. In

STARSOUP Ingredients:

4 Beets
2 Large Carrots
2 Medium Russet Potatoes
1 Medium Yellow Onion, diced
1 Clove Garlic, crushed
1 1/2 Cups Milk
1/2 lb. Butter (Sweet, Unsalted)
1/4-1/2 tsp powdered white pepper
Salt —to taste
Sour Cream

three sauce pans cook vegetables (one for beets, one for carrots, one for potatoes). Cook until tender — all the way through.

Meanwhile, in a large skillet slowly saute in 2 tbs. butter, the onion and crushed garlic until onion is translucent — do not brown.

Heat the milk over low flame, stirring constantly. When it has come to a boil, add the contents of the skillet to it. Set aside — if it becomes cold, reheat.

Peel the cooked beets, then cut into quarters and put into a blender. Add five of the potato quarters and 1 cup of the milk/garlic/onion mixture. Blend until smooth. Add salt, white pepper during the blending/puree process.

— If serving soup immediately, pour about 1/2 cup of the beet soup into bowls — if holding for up to a half hour or so, put the beet soup into a double boiler, or into a ceramic mixing bowl placed into a pan of hot water. —

Clean out the blender. Put the carrots and remaining potato quarters, milk/garlic/onion mixture. Blend until smooth. Add salt, white pepper during the blending/puree process.

With a large serving spoon, carefully ladle the carrot soup into the center of the beet soup. The soup will be distinctly two colors — the red beet soup on the outside rim (1 inch should be showing) and orange carrot soup in the center.

Stir sour cream until it thins. To the very center of the carrot soup place a tablespoon of the sour cream. With a butter knife cut a line gently from the center of the sour cream to the edge of the bowl. The white of the sour cream will flow into the cut — however, with each cut, clean off the knife or red will become mixed into the orange. Make a star (*). SERVES 6 to 8

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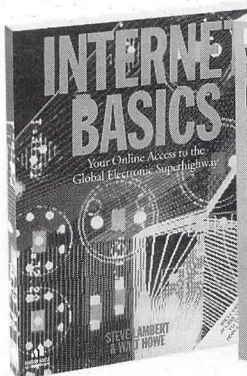
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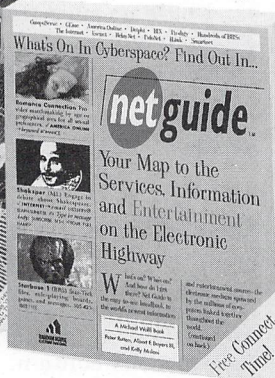
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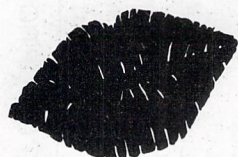
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Multi-Net	Multi-Net Communications	503-883-8099	503-883-7879	503-883-8197	OS2	999	12	OS	Y	N	I	N	Y	\$195	\$195
Novalink Professional 3.0	ResNova Software Inc	714-379-9000	714-379-9014	714-379-9004	MAC	Unlim	40	OS	Y	I	N	N	Y	\$100	\$100
OPUS-CBCS	Clark Development, Inc	214-528-4687	-	214-528-4943	DOS	255	1	DV	N	I	3	N	Y	Free	Free
PCBoard	NUIQ Software, Inc	801-261-1686	801-261-8987	801-261-8976	DOS	1000+	16	DV	Y	I	3	I	Y	\$10,000	\$170
Powerboard BBS	ProBoard International	914-833-3479	914-833-3623	914-833-1479	DOS	999	8	DV	Y	I	3	I	Y	\$2300	\$99
ProBoard	Morgan Davis group	612-537-8655	612-537-8613	612-537-8659	DOS	255	8	DV	Y	I	I	N	Y	\$49	\$49
ProLine	Wantree	619-670-0563	619-670-9643	619-670-5379	APPLE II	1	1	-	Y	N	I	N	N	\$159.95	\$159.95
RemoteAccess	Hamilton TeleGraphics	913-441-1336	913-441-0596	913-441-0595	DOS	250	1	DV	Y	3	-	N	Y	\$529	\$149
RoboBoard/FX	The Ryco Company	800-363-7626	819-685-0994	819-682-7771	DOS	255	8	DV	Y	O	N	N	Y	\$400	\$95
RyBBS	Pinnacle Software	414-962-5967	-	414-962-1097	DOS	9	4	DV	Y	O	N	N	Y	\$175	\$75
Sapphire	Searchlight Software	514-345-9578	514-733-8644	514-345-8654	DOS	1	1	-	N	N	N	N	Y	\$45	\$45
Searchlight BBS	FreeSoft Co.	800-780-5483	216-631-9289	216-631-9285	DOS	Unlim	10	DV	Y	I	3	3	Y	\$399	\$99
Second Sight Software	Buffalo Creek Software	412-846-2700	-	412-846-5312	MAC	2	2	OS	Y	3	N	N	Y	?	\$199
SpitFire BBS	Digital Dynamics	515-225-9552	-	515-225-8496	DOS	255	1	DV	Y	I	3	I	Y	\$85	\$85
Synchronet	eSoft, Inc	714-529-6328	714-529-9721	714-529-5313	DOS	250	10	DV	Y	I	3	I	Y	\$399	\$99
TBBS	MMB Development Corp.	303-699-6565	303-699-6872	303-699-8222	DOS	-	64	I	N	O	3	O	Y	\$1995	\$295
TEAMate	Spider Island Software	310-318-1322	310-318-2162	310-318-5302	UNIX	Unlim	-	OS	Y	O	O	N	Y	\$125,000	\$2,000
Telefinder	Galacticomm, Inc.	714-669-9260	714-669-1383	714-730-5785	MAC	200	20	OS	Y	3	O	N	Y	\$2,000	\$425
The Major BBS	Bruce Krobusek	305-583-5990	305-583-7846	305-583-7808	DOS	256	256	I	Y	3	O	I	Y	\$10,717	\$259
TinyHost	TriSoft	716-924-8284	716-924-4193	716-924-4193	DOS	1	1	DV	Y	N	N	N	Y	\$25	\$25
TriBBS	Virtual Technologies	210-787-2443	207-941-9388	207-941-0805	DOS	255	4	DV	N	O	3	O	Y	\$75	\$75
Virtual BBS	Mustang Software, Inc	805-873-2500	616-399-8934	616-399-4818	DOS/OS2	1024	16	DV	Y	I	3	I	Y	\$999.00	\$99.00
Wildcat!	WWIV Software Services	210-631-6090	805-873-2599	805-873-2400	DOS	250	8	DV	Y	O	I	O	Y	\$799	\$129
WWIV	Z/Max Computer Solutions, Inc	315-635-1908	-	210-631-5841	UNIX	999	8	DV	Y	3	3	N	Y	\$320	\$80
Z/Max XChange				-		Unlim	-	OS	Y	I	N	N	Y	?	\$695

3 = THIRD PARTY

O = OPTIONAL

I = INTERNAL

N = NO

Y = YES

FILE SHOP LANE

by Brian Gallagher

While some organizations or businesses do a rather flagrant job of misrepresentation with their names, such as any political "party," or "Honest" Ed's Used Cars - Walt Lane couldn't be more truthful or accurate when he calls his 28 line Kansas City, MO, bulletin board "The File Shop," (816)587-3311. With over 40 gigabytes of files available on this Remote Access BBS, he isn't just whistlin' Dixie. What it doesn't tell you, however, is about all of the Internet action going on on this board too.

Lane's Inter-connectivity is certainly nothing to sneeze at. The partial leased line connection he has is a V.35 he has running through a Novell router using Novell's multiprotocol router software. The router is a bridged file server on the LAN, bridged to another Novell file server. On the LAN he has 3 UNIX machines all with their own specified duties or path. One collects email, newsgroups, WWW support, IRC support etc. The second is a dedicated SLIP and PPP host used for providing full time Internet access to other boards, businesses or individuals. The third UNIX host is dedicated to experimenting with a new technology called "ZTALK" used for audio transmissions from one Internet client to the next using the LINUX operating system. "Being a provider is where to money is," he says, "not the dial-up."

He is providing full Internet access to a number of other boards, but looks forward to the day when he will have a full T-1 connection of his own and will be supplying perhaps hundreds of others with affordable Internet connectivity. And the Internet is something he values not just in a business sense, but with a certain moral fortitude as well. His 8-year-old son, Greg, uses the Internet to "chat" with his grandfather who lives in Clearwater, FL. "I think that's what it's (the Internet) all about," he said, "getting online, meeting people, exchanging ideas - it's a privilege for us to have this available."

Making his system run faster than most, his main Novell file server houses two 7200 rpm Seagate Barracuda drives as a disk array,

offering higher throughput for disk access on the LAN. The main board on the file server is an EISA motherboard which contains three ethernet backbones connecting rack mounted work stations, (see picture), the UNIX hosts, the router and other work stations.

It is no wonder this BBS is filled with some of the latest greatest hardware technologies when you consider Lane works for a Kansas City distributor of computer equipment. "Working for the distributor I was able to get hardware cheap," he said, "allowing me to expand quickly and offer more." Today he says he probably makes enough money from the BBS to live on, but he isn't quitting his day job because he likes the perks too much.

At 25, working for General Motors as a statistical engineer, Lane first started the board in 1987 with two lines, 640 K of RAM, a 1200 baud modem and a 40 megabyte hard drive, he recalls, "I was on top of the world." The automotive giant sent Lane around to various training sites further enhancing his cyber vocabulary and know how, before he became a victim of a plant shut down and was laid off in May of 1988.

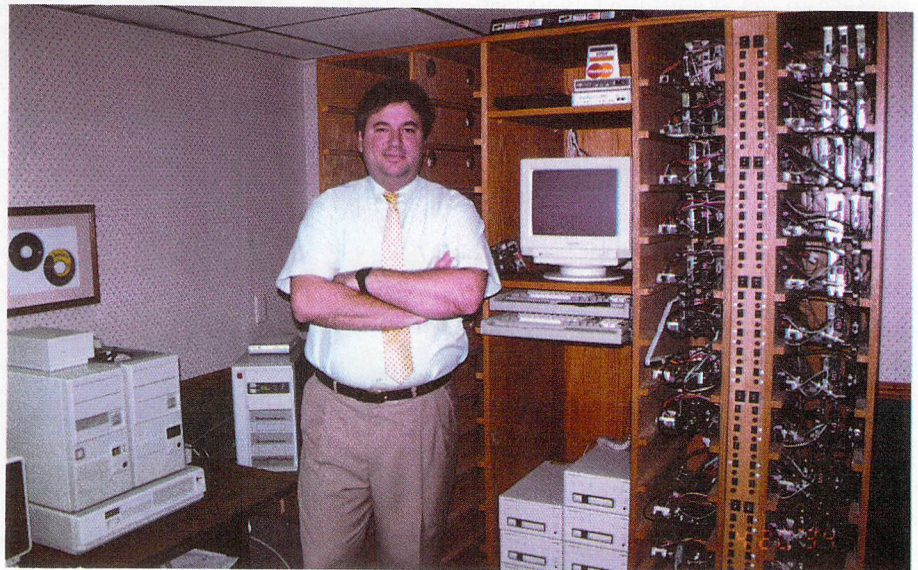
After a two-year stint as a systems engineer for DuPont, Lane found the job he works now and couldn't be happier. His technical expertise, particularly with the hardware side of things, makes him a very valuable

employee as he specializes in distributing high-end product lines for computer dealers in the United States. "Building a computer is no big deal for me," he said, "as a matter of fact it's kind of boring now."

It's no wonder he feels this way as he has had plenty of practice putting computers together. His custom made computer rack (dedicated disc-less workstations - one for each node), the BBS is set up on, fills two rooms in his basement. The rack is capable of holding 152 machines, and currently has 32 up and running - none of them with cases, just motherboards, ethernet adapters, video adapters and high speed modems, all wired together.

The File Shop really started to grow in the early 90s when Lane began working for the computer distributor. For most of 1990 the board remained at four lines and jumped to eight lines in January of 1991. A year later he was running 12 lines and by end of 1992, he was running the 28 lines that he has today. The Internet access was a big motivator in his growth he said, not so much because of the access itself, (initially it was only email and newsgroups), but because it motivated him to sell and market the business more.

He began advertising in newspapers and using fliers, and even advertised during the local Rush Limbaugh radio show. He said that after doing a



**Walt Lane of the File Shop
Standing Next to His 28 Line BBS**

little market research he found the Rush Limbaugh audience, 29-years-old to 58-years-old, was the exact target market for his online service.

Today he boasts over 3,300 subscribers who have full access to his 11 six-CD ROM changers, and full battery of GVC 14.4 kpbs modems. Besides finding revenue from callers and providing Internet access he has also found a way to divest a bit further by allowing a business to rent space on his system for Network capabilities, calling in to get messages, using the Internet, and doing file transfers. The business, he said, came to him because he was cheaper than using CompuServe, and with his Internet connection it is possible for them to log in or telnet in from where ever they happen to be.

He and his wife Jana, recently went through the BBS's books and were amazed to find how well the business was doing. Were it not for the fact that he is still spending more on upgrades in hardware and software than he is taking in, he said, "I'd be driving a Porsche."

Even with over 422,000 files, not a one of them is adult in nature. Lane decided that providing technology and service were the best ways to create a thriving business for him. Part of his service includes catering to the local scene by offering theater listings and other information targeted specifically to the local area. Another nice feature he has is that if when logging in for one reason or another you are denied access, the BBS lets you leave a message to the sysop rather than just kicking you off.

In the future the major direction he would like to move The File Shop in is the area of being an Internet provider. He is also intrigued by the idea of video conferencing and would like to offer that as an option to callers when the technology becomes available.

For more information about The File Shop or to speak with Lane about getting your own Internet site, call his voice line at: (816)587-3352. His netmail address is 1:280/316, and his email address is wlane@fileshop.com.

THERE'S NO PLACE LIKE HOME

by Brian Gallagher

Last year millions of people went online for the first time ever. This plethora of novices waddling around cyber space tripping over each other and most everything else is so full of questions and queries an entire encyclopedia set of FAQs (frequently asked questions) couldn't begin to address the problem. What will appease the ignorance of this online malady are BBSs like Adam and Sara Viener's nine line Cyberia, (717)840-1444, which is specifically geared towards first time users.

In RIP or ANSI mode, this BBS is the epitome of "user friendly." You'd swear the system was designed by Glenda the good witch of the North so that all of the Dorothys out there with modems could "follow the yellow brick road." The menus are clearly and colorfully constructed, grouping like items together in a reasonable, sensible layout that ensures the IRS had nothing whatsoever to do with the menu design.

One of the first things a caller will run across after going through an extensive first-time log-in procedure, (two cups of coffee - minimum), is a menu offering tid-bits of information particularly valuable to new users. Options include FAQs about the Internet, the how and why of QWK

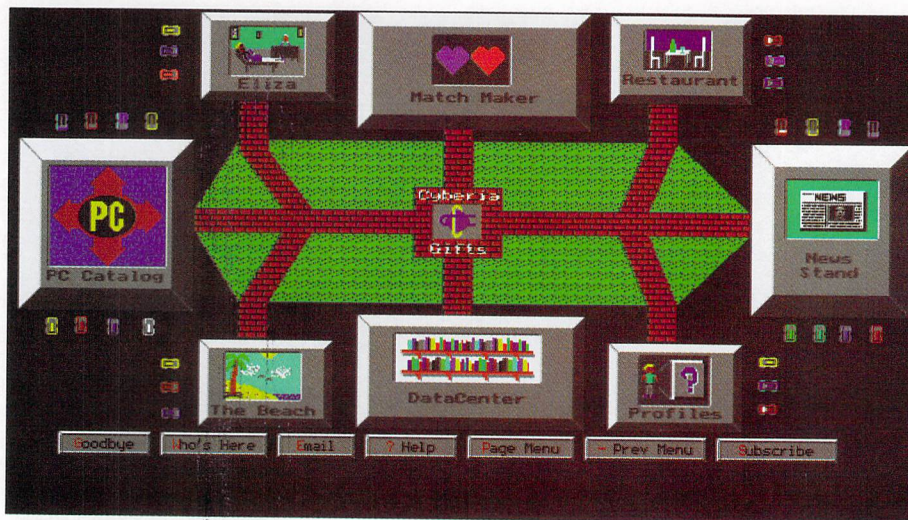
offline mail readers and what is shareware and the ASP - all valuable pieces of information for newcomers trying to figure out just what it is the rest of us are doing, and how it is that we go about doing it.

Just because this TBBS bulletin board is laid out for the novice doesn't mean that it isn't a valuable resource for more seasoned users. Cyberia contains a full 3.3 gigabytes of downloadable files, including the top 10 shareware files; an online newsstand that includes USA Today, PC Novice, PC Today, Boardwatch Magazine and Eek Bits - a free monthly online publication, Internet access (e-mail and newsgroups), an area for restaurant and movie reviews, TBBS' new ULTRACHAT chat module, a drug interaction section where a person enters two types of drugs into a program and it provides information about their possible interactions with each other - for safety's sake.

Viener began his BBS journeys while in his early teens in 1983 with an Apple II+ and a cryptic communication program. The online world intrigued him then, but his cyber adventures were put on hold for a time while he attended a prep school with one pay telephone for the entire dorm. Once out of prep school and attending Tulane University, it didn't take long for his BBS blood to start boiling once again.



**Adam & Sara Viener of Cyberia BBS
With their Co-Sysops Rufus & Bernard**



Cyberia Mail Menu Supporting RIP Graphics

He ran "Bill and Ted's Most Excellent Adventure" for two years from the university until graduation in 1991. During his college days Viener met up with Sara, whom he married shortly after graduation. There was a hitch to their wedding bells, however, Adam said he knew that Sara would never marry him while he spent much of his time catering to the needs of a bulletin board, rather than focusing his attentions on his wife. "It was a negotiation," he said, "I knew there would probably be no 'I do without there first being an 'I won't' (spend all of my time on a computer) from me."

Only after the certificate was signed and the ring securely fastened to her finger did the subject of BBSing rise once again. After juggling jobs and residences for the next several months, the Vieners settled in York, PA, where Bill and Ted's was reincarnated late in 1992.

In York Viener started reading Boardwatch Magazine and when he read about the Event Horizons BBS, and that it was pulling in over \$8,000 per day, he thought "Someone is turning my hobby into a career, I want to do the same," (although the Vieners decided to go for a general interest BBS rather than an adult BBS). Thus began a rigorous and detailed effort by the pair to construct a business plan that would ultimately allow them to be their own boss, working out of their home.

Their first step in detailing a business plan was ordering audio tapes from the first ONEBBSCON show in August of 1992, which they had just missed. After six months of reviewing the tapes, gleaned information from America

Online's annual report on the industry, and sorting through the advantages and limitations of the various BBS software packages - the well-informed and confident couple approached their banker - asked for and got a Visa/Mastercard merchant account.

Bill and Ted's became Cyberia on June 1, 1993 after a two month period of "crucial" extensive beta testing by 20 to 30 Bill and Ted "regulars." The TBBS software package was chosen because Adam wanted the flexibility to create his own look and feel for Cyberia "...so that it would be as easy as possible for a first time user to get up and running in the shortest amount of time." In order to do this he decided that he basically needed to start from scratch, and for doing that TBBS was the obvious choice.

When Cyberia first opened with six lines it was about twice the size of other local boards; within three months it expanded to nine lines to keep up with demand. Adam said they are ready to expand again and will likely do so in the near future, but he adds only now is Cyberia bringing in as much as is going out - he has yet to make any real money from it. But that's okay he says, according to their business plan they aren't supposed to break even for the first two years.

Like many sysops making their BBS more than just a hobby, the Vieners attended the second ONEBBSCON show in Colorado Springs, CO, in August of 1993. Like the tapes from the first show, the Vieners found lots of valuable information at the popular trade show and came away with several new additions for their board.

"You get lots of ideas from people there," Adam said of ONEBBSCON. The ideas he came away with and incorporated into Cyberia were RIP graphics and the Personal Internet E-mail Processor - PIMP. He also found a bar called "The Bumblebee" in the basement of the Broadmoor Hotel, where the convention was held, that still holds many fond, if perhaps blurry, memories. Both he and Sara plan on attending the show again this year and are looking forward to the networking, the valuable information to be gleaned, and just having a good time.

Plans for the future of Cyberia Adam sees as installing full Internet access, including ftp and telnet capabilities - adding that he wishes Phil Becker of eSoft would finish his "Internet Box." He is also considering installing a satellite dish and would like to go to a more network oriented environment, i.e. having a 6 disc CD ROM changer that could operate without slowing things down...so much for wish lists. Wishing or dreaming, the Vieners seem to be headed in the right direction, doing the right things, and having a ball.

Subscriptions to Cyberia are \$7/month for 2 hours/day, with additional hours available at \$1 per. There are no additional charges for features on the board, all subscriptions include full access, and users can receive e-mail for free, but must be a member to send it. For more information about Cyberia call their voice support line at: (717)840-0139, send e-mail to: adam.viener@cyberia.com, or write: Cyberia Communications, Inc., attn: Adam and Sara Viener, Box 172, 2536 Eastern Blvd., York, PA 17402.

THE BLUE AND THE GRAY - STILL FIGHTING THE CIVIL WAR

by Brian Gallagher

In a land where backwoods means next door; and the mascot for the favorite college team is a surly hog, from this unlikely land of presidents comes a board filled with American history. This isn't one stop shopping for the whole of American history since the Mayflower to the present, and it doesn't include both Americas, North and South; it is a board aimed at particular segment of United States history - North and South - and biggest

bloodiest war this country has ever known. Bob Underdown, sysop and civil war reenactor of Fayetteville, Arkansas, relives this war as a reenactor, and keeps it alive electronically on his one line Super BBS, *The Blue and The Gray*, (501)444-8420.

For years Underdown has been a Civil War buff, reading whatever he could find including reading about his six great great grand uncles who all fought in the 2nd East Tennessee Regiment, a union force. In January of 1993 his passion got the better of him when he joined the 37th Illinois Infantry Civil War reenactment regiment, also a union force, and has since found the hobby consuming. Reenacting wasn't always his passion however, there was a time when BBSing was the fire in his eyes.

Underdown, who works as a customer service representative for a cable company, began BBSing in 1981 with a Vic 20 and a 300 baud modem. He wanted to see what was out there and contacted a local board run by Gary Funk and "fell in love with the whole thing." By July of 1987 he was running the Gaslight BBS, a general board for the local area. When his computer died in 1990, even though the board was taking 50 to 60 calls per day, he let it rest as he just didn't think that a general interest board was what he wanted at the time. He wanted something more specific, more focused.



**37th Illinois Infantry, Company A
at Prairie Grove Arkansas, November 1993**

His focus came when he joined the reenactors. Nine months later he combined his two favorite activities and in October of 1993 was sysoping once again. With over 30 megabytes of civil war related files he is confident that he has the largest collection around.

This no-charge board specializes in military history and also has some genealogy files, but by far the vast majority of information is about the Civil War - and it will remain so. In keeping with this vision, Underdown has a civil war and a reenact echo on his board as well as the Arkansas echo.

While he holds BBSing as a great sport that he truly enjoys, Civil War reenacting has nudged bulletin boards aside as his favorite recreational activity.

"It's one of the most incredible feelings you could ever have," he said, "to stand in a line with a 100 men and fire a volley all at once." Underdown saves the first paper cartridge that he tears open to load his black powder rifle with from each battle. Later, he writes the battle and the date on the cartridges and frames them, to date he has 12.

The 37th regiment has 15 members, and participates with up to 8,500 others while reenacting a single battle. It goes farther than just reenacting battles though. The regiments, especially "hardcore" groups like the 37th, will camp out using only equipment that was available during the civil war - going so far as to have members who wish to have a soda pop or some other 20th century convenience walk away from camp to enjoy their luxury.

Corporal Kim Scott, commanding the 37th Illinois Infantry, who works as the head of processing services special collections division for the University of Arkansas libraries, has been with the reenactors since 1989 and enjoys the camaraderie most about the activity, "You make friends you will keep your whole life," he said.

Scott said he has looked through a Civil War listing on the Internet, available to him through the University,



**Bob Underdown (center, back) and the
37th Illinois Infantry Civil War Reenactment Regiment**

and has found it to be both snobbish and one of the "most boring" things he has ever read, saying most of it seemed to be nothing more than class syllabuses. On the other hand, he finds *The Blue and The Gray* to have much more interesting and intriguing information, adding that most of those who post information there cite their sources adding to the credibility and integrity of this growing historical resource.

Underdown has many plans for the future expansion of the *Blue and the Gray*, not a one of which involves altering the direction or focus of this very specific board. Besides many downloadable graphic files available on the board, such as a sketch of Abraham Lincoln and his son **ABE&TODD.TIF**, many text files are also available - including one about a Captain Joseph Dickson Underdown of Company K, who was captured in the fall of 1863 and escaped from a Confederate prison in February 1865; filename **JOSEPH.ARJ**.

Underdown also keeps a list of Arkansas BBSs which can be found on the *Blue and the Gray*, or in the Arkansas echo where a fresh update is posted at the beginning of each month. For those who have difficulty finding the list, Underdown will send a print out to all who send a self-addressed stamped envelope to: The Blue and The Gray BBS, attn:Bob Underdown, P.O.Box 2947, Fayetteville, AR 72702. For those wanting to be added to the list Underdown recommends they either post a message to that effect in the Arkansas echo, or mail him the information.

Anyone wanting more information about the Civil War or reenacting can call the BBS, write Underdown at the address above, or email Kim Scott: kscott@saturn.uark.edu.

SOUTH FLORDIA - 163 BALMY BULLETIN BOARDS

by Brian Gallagher

Where the salt and the spray meet, where the warm waters of the south Atlantic bathe sandy beaches year round, where seagulls collect like ants at a picnic - there are still BBSers. Yes, even in this vacation land known as South Florida an online community

thrives dialing in and logging on 24 hours a day.

With 163 BBSs this American vacation land isn't exactly inundated with a hurricane of electronic options. What the bulletin boards that are here do have is an abundance of the very gusty high speed 28.8 kbps modems, transferring bytes of data in a whirlwind. Eric Thav, a technical support engineer for Galacticom, sysop of The Galacticom Demo System (305)583-7808, co-sysop of the Silicon Beach BBS (305)474-6512, and list keeper since March of 1990, was surprised by the influx of 28.8 kbps modems, even though these sorts of trends are not so uncommon to this group of users. .

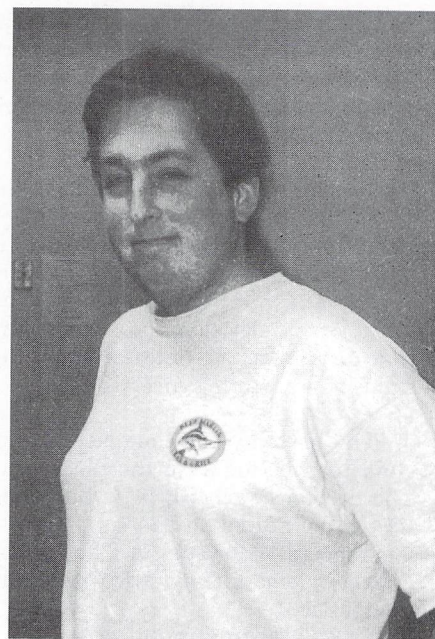
The trend of users swapping their "old" slower modems out for the newest, neatest, and fastest release is a prevalent one. "At first everyone was running HST (modems)," he said, "Then it was v.32 and v.32 bis modems, and now it's 28.8 - I was shocked to see how many boards have gone to 28.8, considering it's not an accepted standard yet."

While 16 boards out of 163 boards, or 8.5 percent of the boards supporting the V.FC protocol may not seem like anything really "shocking," it is a very healthy representation of this new technology taking hold in an area. By far the predominating modem speed for the area and the industry is 14.4 kbps, with 110 BBSs, or two thirds supporting this speed.

Thav first started keeping the list because there just wasn't anything comprehensive for the area when he first got into BBSing. It began with 20 to 30 boards and has been growing steadily since, but it didn't grow all on its own. It took a lot of leg work to get the list together, and there were many times the then student would end up missing a class while calling BBSs to verify their existence.

In the beginning Thav kept pretty much to maintaining a list for his local area, (Boca Raton, Broward County and Delray Beach), but when the list keeper for the Palm Beach area decided to stop doing it, like a good sysop, Thav added this orphaned list to his too.

What Thav likes most about being a sysop is the "warm" feeling he gets when someone is poking around one of the boards he works on. For the Galacticom board, he enjoys changing the



**Eric Thav, Listkeeper for
Southern Florida**

look and feel of the menus to keep them interesting for users. Mostly the board is a technical support area for those using the Major BBS, but it is also a showcase for Galacticom releases. The new Major release, V.6.2, has built-in automated RIP graphics, which means just what it says - at the discretion of the sysop, any menu can be adopted to support the RIP protocol with the program doing all of the work on its own.

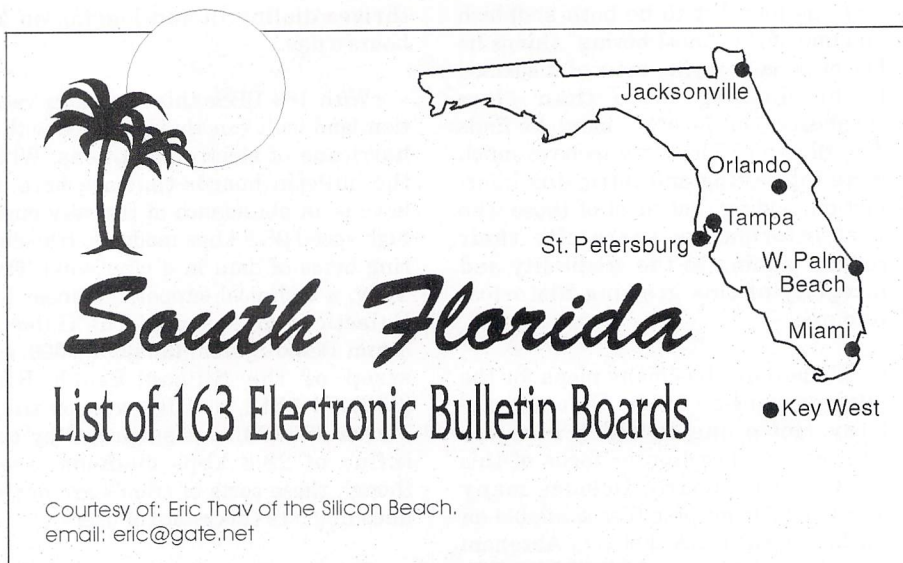
Thav is also in charge of giving registered users of The Major BBS upgraded access on the board. He is currently involved in putting a third party software developer area on the board, as well as a dealer area on the board. For those needing technical support and wishing to dodge the long distance phone bills from calling all the way to Florida - say California, they can post their message to a local board that supports the MajorNet or NetAccess to have their problems solved more economically.

The Silicon Beach BBS is a relatively technical board specializing in having a lot of files for hungry users to download. The only files that you won't find on this board are pirate and pornographic. The sysop, Mark Lautenschlager, has been running the beach for over five years and has been a sysop for over eight years. Lautenschlager works as an independent computer consultant and is what Thav calls a

"very fair sysop." By this he means that regardless of whether a user is new, or a seasoned veteran, he will have the equal time and attention of this very qualified sysop when they log onto his board.

In addition to the list of BBSs in the area, Thav is also the sole author of The Computer Users Guide, an electronic newsletter listing user groups, local events and happenings concerning cyber jocks, television and radio shows that pertain to the online community and is now accepting advertising.

The list and The Computer Users Guide can be found in the file area of The Silicon Beach BBS. If you would like to be added to the list, leave a message to the sysop on The Silicon Beach, or email Thav: eric@gate.net; CompuServe: 71053,3462@compuserve.com.



South Florida
List of 163 Electronic Bulletin Boards

Courtesy of: Eric Thav of the Silicon Beach.
email: eric@gate.net

Title	Phone	Location	Title	Phone	Location
4x4 Haven BBS	305-572-4007	Fort Lauderdale	Diver Down	305-436-3937	Hollywood
Abuser BBS	305-581-7549	Fort Lauderdale	Dr. Downloads BBS	305-746-0795	Fort Lauderdale
Adult Expectations	305-753-5407	Coral Springs	Dracula's Castle	305-964-2696	Hollywood
Adult Expectations	407-852-2007	Boca Raton	Dragon World (15)	407-487-2498	Boca Raton
Adult Information Exchange	305-783-1989	Fort Lauderdale	ESAD BBS	305-986-9242	Hollywood
Adult Information Exchange	407-451-1984	Boca Raton	Eagle Eye	305-584-6258	Fort Lauderdale
Agape BBS	305-974-3552	Pompano Beach	Emerald Palace	305-572-3475	Fort Lauderdale
Alpha 2000	305-752-9439	Coral Springs	Euro Operative	305-341-7419	Coral Springs
Always All Adult BBS	305-584-9814	Fort Lauderdale	Florida Byte Exchange	305-972-1901	Pompano Beach
Artists' BBS	305-432-5019	Hollywood	Florida Data Library	305-978-3390	Coconut Creek
BISLINE	407-395-2810	Boca Raton	For Kids Only!	305-437-9848	Hollywood
BIZLINE	305-587-8895	Fort Lauderdale	Freddy's Funland	305-438-3320	Hollywood
BPAA Online	305-474-2660	Fort Lauderdale	Galacticomm Demo System	305-583-7808	Fort Lauderdale
BSI-BBS	305-434-5619	Fort Lauderdale	Gamewatch HQ BBS	305-764-3108	Fort Lauderdale
Bargain Store	305-438-9995	Miramar	Gammatown BBS	305-572-7060	Fort Lauderdale
Bart's Computer Room BBS	305-977-0933	Pompano Beach	Garbo's Villa	305-966-6815	Hollywood
Bashful Pervert BBS	305-472-7715	Plantation	Gateway BBS	305-587-7792	Fort Lauderdale
Ben WAS Board	305-458-2998	Hollywood	Gator's BBS	305-720-7675	North Lauderdale
Big Bobber's BBS	305-572-3357	Fort Lauderdale	Genesis Network II BBS	305-698-9228	Deerfield Beach
Blaze BBS	305-454-3940	Hallandale	High Society	305-473-2361	Fort Lauderdale
Bob & Vicky's BBS	305-749-8271	Fort Lauderdale	HugoNet!	305-485-3132	Fort Lauderdale
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Boca Bytes	407-391-4884	Boca Raton	InterMail Software BBS	305-436-1884	Hollywood
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Realm-FX	305-977-3761	Pompano Beach	The Great Escape	305-581-4440	Fort Lauderdale
Redman's BBS	305-435-1972	Pembroke Pines	The HOUSE OF ICHTHYS	305-698-9836	Deerfield Beach
Rock & Roll BBS	305-389-8507	Fort Lauderdale	The Hobby Line BBS	305-966-2677	Hollywood
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Spectrum BBS	305-749-6060	Sunrise	The Miami Cockpit I	305-456-0126	Pembroke Pines
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BOARDWATCH

List of BBS List Keepers

This listing comprises a list of those who compile and maintain lists of bulletin boards, either by topical category, or by some geographic area or definition - often by area code. The primary bulletin board system where the list can be downloaded electronically is also included.



BBSLIST TOPIC	AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
Republic of South Africa	Henk Wolsink	Catalyst BBS	(041)34-1122
Connecticut AC 203	Kevin Brook	Creative Edge BBS	(203)743-4044
BBS With Handicapped Focus	Bill McGarry	Handicap News BBS	(203)926-6168
Seattle AC 206/West Washington	Bob Dinse/Nanook	Eskimo North	(206)367-3837
Tacoma Washington AC 206	Richard Langsford	AmoCat BBS	(206)566-1155
Puget Sound Area	Art Tomlin	Orion Station	(206)675-0565
Kitsap County Washington	Michael Schuyler	Quicksilver BBS	(206)780-2011
Maine 207	Scott R. Bodeen	Street Corner BBS	(207)442-0997
Central California AC 209	Jack Porter/Madera UG	Zen Den Systems	(209)675-8436
Graphical User Interface BBS	David Shapiro	The Gooney (GUI) BBS	(212)876-5885
96 List - 9600+bps BBS	Ken Sukimoto	Downtown BBS	(213)484-0260
Open Access UNIX Site List	Phil Eschallier	LGNP1 (login:BBS)	(215)348-9727
Pennsylvania AC 215/609/302	Ron Brandt	DSC/VOICENET	(215)443-9434
Cleveland Area 216	Jim Barry	Flip Flop	(216)951-9134
Champaign-Urbana IL AC 217	Eddie Thomson	The Dungeon BBS	(217)355-1214
Conservation/Nature BBS List	D.Wendling/JS Christianso	Coin of the Realm	(301)585-6697
Ham/Amateur Radio BBS	Stan Staten	3WINKs BBS	(301)590-9629
Handicapped Issues BBS	Richard Barth	HEX BBS	(301)593-7357
Desktop Publishing BBS	Frank Atlee	Infinite Perspective	(301)924-0398
Delaware AC 302	Vince Boehm/Dave Osburn	Talk Radio BBS	(302)429-7667
Medical Issues BBS	Edward Del Grosso	Black Bag	(302)994-3772
Colorado AC 303/719	Willis Morrow	Big Boy's BBS	(303)458-3832
Cave Exploration BBSs	Douglas L. Moore II	The CatEye BBS	(304)592-3390
South Florida Area 305/407	Eric Thav	Silicon Beach BBS	(305)474-6512
Southern California	Mike Hefferman	SOCAL Corner	(310)422-7942
California AC 310	Jim Walton	Illusions BBS	(310)804-3324
Detroit Area 313	Horst Mann	Tony's Corner	(313)754-1131
St. Louis AC 314	Beth Brooks	Fire Escape's Dir	(314)741-9505
ASP BBS Member List	Richard Holler	The RoadHouse BBS	(317)784-2147
Engineering Related BBS	Arthur Petrzeka	Computer Plumber	(319)337-6723
Rhode Island Area 401	Mike Labbe	Eagle's Nest	(401)732-5292
Alberta AC 403	Stephen Decarie	T-8000	(403)246-4487
Calgary Alberta AC 403	Jeremy Birkett	The Quantum BBS	(403)252-5119
Atlanta Area 404	Online Atlanta Society	OASIS	(404)627-2662
Atlanta Area 404	Rodney Aloia	The INDEX System	(404)924-8472
Montana Area	Jay Michalik	Valley Light BBS	(406)273-6399
San Francisco Bay Area	Mark Shapiro	BABBA BBS	(408)946-8592
Baltimore BBS Area 410	Brad Blase	Silver Streak BBS	(410)683-1583
Pittsburgh AC 412	Chas Stokes	Zuul's Catacombs	(412)264-9787
National BBS List	DP McIntire/Beth Spotts	Ameriboard	(412)349-6862
Miwaukee Area 414	Mark G.	The Castle	(414)327-5085
North America Nudist List	Patrick O'Brien	Natural Connection	(414)426-2110
Ontario AC 416	Jeff Young	Tradewinds BBS	(416)503-4388

BBSLIST TOPIC	AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
Toledo Ohio Area 419/313	Ryck Zarick	Toledo's TBBS	(419)475-2241
Arkansas Area 501	Bob Underdown	The Blue & The Grey	(501)444-8420
Portland Oregon BBS	Lisa Gronke	DawGone Disgusted	(503)297-9145
New Orleans BBS List	Jeff Jones	Southern Star BBS	(504)885-5928
New Mexico Area Code (505)	Dan Kiehl	MDC Computers BBS	(505)434-0258
Worcester MA AC (508)	Jim Metzler	Miwok Village BBS	(508)754-6512
Corpus Christi	James Cordani	Treasure Island	(512)241-8358
Austin Area BBS List AC 512	John Foster	Camel's Back BBS	(512)243-0077
Selected BBS	Joseph Caplinger & Son	J&J's BBS	(513)236-1229
List of Gay/Lesbian BBS	Eric Blair	S-TEK BBS	(514)597-2409
AC 516 Free Shareware BBS	Harold Stein	Long Island Exchange	(516)271-5303
Area Code 517 - Mid-Michigan	Rick Rosinski/SAMM	Wolverine BBS	(517)695-9952
Business/Professional BBS	Dennis Hauser	Delight The Customer	(517)797-3740
Phoenix AC (602)	John Mendivil	Majestic Royalty BBS	(602)278-1651
Phoenix AC (602)	Sue Widemark	Cheese Whiz BBS	(602)279-0793
Cochise County Arizona	Kevin McCrory	The Commo Shack BBS	(602)452-0587
Kentucky AC (606)	Jon Hagee	Kentucky Explorer	(606)271-1451
Wisconsin 608	Jim Wargula	JW-PC Dataflex.HST	(608)837-1923
New Jersey AC 609	Dave Schubert	The Casino BBS	(609)485-2380
New Jersey Area 201/609/908	Wayne R. Morton	Praedo BBS	(609)953-0769
Minnesota Twin Cities AC 612	Barry Watson	Abiogenetic BBS	(612)774-8454
Apple II BBS	Mike Shecket	Way Out	(614)436-4846
Tennessee AC 615/901	unknown	SPDA Info Service	(615)952-5638
San Diego, CA AC 619	Tom Grigg	ComputerEdge	(619)573-1675
San Diego AC 619	Joe Nicholson	General Alarm	(619)669-0385
Apple II BBS with Internet con	Morgan Davis	pro-sol	(619)670-5379
Virginia AC 703/804	Eddie Gebhard	PC Power House	(703)348-1423
OS/2 BBS Systems	Pete Norloff	OS2/Shareware BBS	(703)385-4325
Washington DC BBS List	Mike Focke	Interconnect	(703)425-2505
Genealogy Related BBS	Richard A. Pence	NGS-CIG	(703)528-2612
Charlotte, NC AC 704	Blaine Schmidt	Moobasi Optics, Ink	(704)541-9842
Black Run/Oriented BBS	Arthur "Rambo" McGee	BDPA BAC BBS	(707)552-3314
Chicago	Peter Anvin	Royal Swedish Viking	(708)491-9033
Airline Pilot/JUMPSEAT BBSs	Rex Chadwell	ChicAAgo Hangar	(708)980-1613
Houston Area 713	David E. Wachenschwanz	Atomic Cafe BBS	(713)530-8875
Rochester NY AC 716	Tracy Logan	Logan's Run	(716)328-2914
Ecology/Conservation BBS	Bob Chapman	EarthArt BBS	(803)552-4389
Firearms Related bbs	Jerry Brunet	Neon Nights	(804)588-4978
Wildcat! BBS	Jim Harrer	Wildcat! HQ	(805)395-0650
Central California Area 805	Larry Honore	His Board	(805)652-1478
Oahu Hawaii	Brent Davis	Land's End BBS	(808)499-2527
Technical Support BBS List	Gary Barr	Digicom BBS	(812)479-1310
Pinellas/Tampa Florida AC 813	Emery Mandel	Mercury Opus	(813)321-0734
Kansas City Area 816/913	Roy Timberman	Sound Advice	(816)436-4516
Occult BBS	Phil Hansford	Mysteria	(818)353-8891
Commodore 64/128/Amiga BBS	John Rigali	Night Gallery	(818)448-8529
Ontario Canada	Sean Berry	Seventh Dimension	(905)-571-6052
Alaska AC 907	Patti Johnson	Alaska Pirate Soc.	(907)248-9364
Darwin National USBBS List	Bob Breedlove	Bob's BBS	(916)929-7511
OS/2 Related BBS	Dave Fisher	LiveNet 1:170/110	(918)481-5715
Tulsa Oklahoma Area BBS List	Linda Hargraves	ACCESS AMERICA	(918)747-2542
Raleigh NC Area Code 919	Mike Stroud	Micro Message Svc.	(919)779-6674
Switzerland BBS List	Cesar Keller	The Warehouse BBS	0114114925157
U.S.S.R. BBS List	Serge Terekhov	Court Crimson King	7-3832-356722

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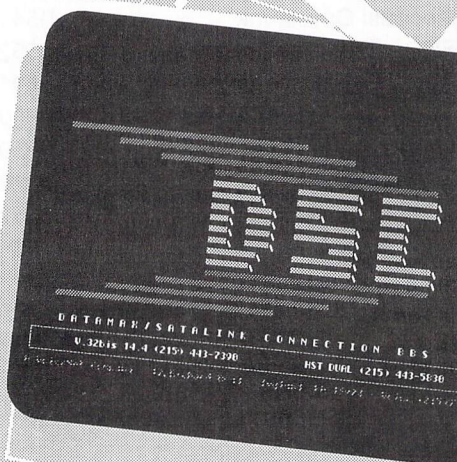
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Whiplash BBS (803)776-8864 Columbia, South Carolina since 04/93. Sysop: Brian Hostinsky. Using PCBoard 15.1 with 2 lines on MS-DOS 80486 with 10500 MB storage. Zoom at 28800 bps. \$25.00 Annual fee. Columbia's Largest BBS. Sporting over 10.5 Gigabytes, and over 700 message areas we have something for everyone. We are also an official Apogee, SWC, & ID support & Dist. site, with a direct link to Software Creations BBS. Come see what we're all about.

Nuttin' Fancy BBS (804)239-5434 Lynchburg, Virginia since 08/93. Sysop: Jeff Washburn. Using PCBoard 15.1 with 3 lines on MS-DOS 80386 with 5000 MB storage. Hayes at 28.8 bps. \$35.00 Annual fee. Over 5 Gigabytes of Online Files. All phone lines roll over. Fidonet and Inteltec Message Network Member. Official Apogee Software Distribution Point. ASP Approved Member BBS. 1 Free week of BBS usage when New. Mention this ad to get \$5 off a subscription

The Aloha Network (808)621-8845 Oahu, Hawaii since 07/93. Sysop: Johnny Brown. Using MajorBBS 6.20 with 8 lines on MS-DOS 80486 with 860 MB storage. US Robotics at 14400 bps. \$50 Hourly fee. Free trial period for new users, discounts available. Social BBSing like you always knew it would be in Paradise! Special support for disABled and military users. Chat, active message areas, MajorNet and Internet mail. 7 CD-ROMS online. RIP graphics

The Serial Port (810)286-0145 Clinton Township, Michigan since 03/82. Sysop: Stu Jackson. Using TBBS 2.2 with 16 lines on MS-DOS 80486 with 10100 MB storage. ZyXEL at 16800 bps. \$10 Monthly fee. C'mon by for a fun time. Over 10 Gig of pd and ADULT files. New UltraChat for live PartyLine Chat between users! Ladies receive n/c access to many of the systems options. We offer instant access with Visa/MC/Discover and voice support lines. See you soon

The Grafix Shop Plus (813)277-5771 Fort Myers, Florida since 01/16. Sysop: Sam Riccobono. Using RoboBoard FX 1.4 with 4 lines on MS-DOS 80486 with 7000 MB storage. US Robotics at 14400 bps. \$10 Monthly fee. Full featured multiline system. 4 nodes, real time chat, over 40,000 files.

Mercury Opus (813)321-0734 St. Petersburg, Florida since 09/88. Sysop: Emery Mandel. Using PCBoard 15 with 10 lines on MS-DOS 80386 with 12000 MB storage. Hayes at 28800 bps. \$30 Half Year fee. HUGE message area, over 1500 conferences, 100,000 quality Amiga, Mac, DOS, Windows, OS/2 and adult files with new files daily, 10+ networks including Internet and Usenet, games, chat, matchmaker, fax gateway, BBS lists, instant access via credit card.

Inner Sanctum BBS (813)848-6055 New Port Richey, Florida since 03/85. Sysop: Rob Marlowe. Using TBBS 2.2 with 6 lines on MS-DOS 80386 with 5200 MB storage. Hayes at 14400 bps. \$25 - \$50 /yr fee. Pinellas County Access number (813) 934-5533. Online games, huge file library, online chat. FidoNet. Look around for free. Give us a call and check us out.

The Emporium BBS! (817)543-4250 Arlington, Texas since 10/88. Sysop: Henry Buchanan. Using Remote Access 2 with 20 lines on MS-DOS 80486 with 6000 MB storage. US Robotics at 19200 bps. \$75 Annual fee. One of the largest collections of adult files! Over 17,000 adult files online. Adult games online, with online chat and messages! ADULTS only! Must be 21 years of age or older! Immediate adult access w/valid credit card - VISA, Mastercard, Discover, AMEX
Panasia BBS (818)569-3740 Glendale, California since 05/89. Sysop: William Padilla. Using PCBoard 15.1 with 1 line on MS-DOS 80486 with 50 MB storage. US Robotics at 19200 bps. \$20 Annual fee. We offer Internet e-mail access, carry all ILink conferences, and feature ThrobNet adult conferences. A modest but high quality file area is available. There is no total daily time limit. System can be demo'd by logging on as TEST DRIVE (pswd: PANASIA)

Techno Surfing BBS (818)769-0691 San Fernando Valley Los Angeles since 02/01. Sysop: Barry Lampert. Using MajorBBS 6.12 with 8 lines on MS-DOS 80486 with 1600 MB storage. US Robotics at 19200 bps. \$8.85 Monthly fee. Multi Player online Games, Swords & Sorcery, Novatrek, Blademaster, Etc., Adult GIFs, Adult Chat, Adult Forums, DC-NET Adult VIEWING, DC-NET Shopping, SHareware Files Library, Using MAJOR BBS Software, Parties, Classified advertising, L.a. #213/937-1652

KBBS Los Angeles (818)886-0872 Beverly Hills, California since 09/88. Sysop: Dale. Using MajorBBS 6.21 with 68 lines on MS-DOS 80486 with 10000 MB storage. Hayes at 28800 bps. \$9.50+ Monthly fee. The largest 21 and over BBS in the West. Tradewars 2002, Erotica, and other games online. Nationwide Chatlink & WorldLink all evening, EVERY evening. Over 7000 members, InterNet, and MajorNet via Satellite. Free Trial. Write sysop@kbbs.com.

The Ledge PCBoard (818)896-2007 Lake View Terrace, California since 01/87. Sysop: Joseph Sheppard. Using PCBoard 15.1 with 3 lines on MS-DOS 80486 with 2000 MB storage. US Robotics at 19200 bps. \$40 Annual fee. Home of the U'NI-net Echomail Network. Free Internet Email address with subscriptin. Home of TextView, BBSList, DDoor, ATSend, DayBat and other programs. All lines answered by 486-SX or better and 21.6K USR Dual Standards. PC-Catalog!

DRAGON KEEP (904)375-3500 Gainesville, Florida since 01/87. Sysop: Dragon. Using MajorBBS 6.2 with 32 lines on MS-DOS 80486 with 5000 MB storage. US Robotics at 14400 bps. \$.25 Hourly fee. Exciting Realtime Multi-Player Games, 24 Hr LIVE Chat featuring GLOBAL CHATLINK *every* night 10PM-1AM (EST), Over 50,000 files online w/ 6 CD-ROM's, MAJORNET, NetAccess, and INTERNET. Instant access w/ VISA, MC * Call (904)375-6431 for 14.4 Access!

The Never Enough BBS (908)862-0631 Linden, New Jersey since 02/94. Sysop: Mike Demkowicz. Using PCBoard 15.1 with 1 line on MS-DOS 80386 with 700 MB storage. Hayes at 28800 bps. No fee. Full RIPscrip support - We have many files, games, CD-ROM, MegNET echo-mail, NJ Weather. An ADULT conference with adult games & GIF's (support members only). There are UL/DL ratios for regular members. WARNING!! I use Caller ID so NO duplicate accounts.

Bits and Bytes BBS (909)356-4636 Fontana, California since 09/91. Sysop: Barly Redsar. Using PCBoard V15.1 with 7 lines on MS-DOS 80486 with 13000 MB storage. US Robotics at 21600 bps. \$38 Annual fee. BEST BBS around! You do not believe us? Well call and find out for yourself! How can you go wrong? Over 75000 files online (every week we have 700 new files), 60 Door games, 700 conferences (Internet, RIME, U'NI, Inteltec, Throbnet, and more). Adult Only.

NightVision (909)369-6556 Riverside, California since 11/93. Sysop: John Williams. Using WildCat 3.90 with 8 lines on MS-DOS 80486 with 8000 MB storage. US Robotics at 14400 bps. \$69 Annual fee. FREE Memberships Available! Call For Details. Monthly Amateur GIF Contests, Internet E-Mail and News Groups, Massive Library of Adult GIF's and Text Files, Group and Private Chat, On-Line Games, Adult Networks, Matchmaker Database.

Legend Graphics OnLine (909)689-9229 Riverside, California since 11/91. Sysop: Joey Marquez. Using PCBoard 15 with 12 lines on LAN Network 80486s with 6000 MB storage. US Robotics at 14400 bps. \$5 Monthly fee. Nation's One Stop Graphics BBS! You will be impressed! Huge Adults Only File Areas! Simply the BEST in Southern California! SuperVGA Photo Images, Video in Motion MoviePICs! Visa MC AmExp Optima accepted.

The Backdoor TBBS (910)350-8061 Wilmington, North Carolina since 05/92. Sysop: Thomas Bradford. Using TBBS 2.2 with 11 lines on MS-DOS 80486 with 12920 MB storage. Hayes at 28800 bps. No fee. USA Registration site for Terminate terminal program. Visa, Mastercard accepted online for Terminate and BBS registrations. 19 CD Roms, FamilyNet, FidoNet SurvivalNet Networks, QWK mail, over 35 games, Online fax, Internet mail and much more.

The Erotic Shopping Network (913)780-0005 Olathe, Kansas since 04/93. Sysop: Dave McVey. Using MajorBBS 6.1 with 3 lines on MS-DOS 80386 with 485 MB storage. Zoom at 9600 bps. No fee. The first BBS of its kind in the U.S. On-line Adult shopping system featuring XXX videos, exciting lingerie, massage oils and lotions, condoms, marital aids and adult novelties. Catalogs available in hardcopy. MC, VISA welcome. Must be 18 or over.

ExecNet (914)667-4567 Mount Vernon, New York since 11/85. Sysop: Andy Keeves. Using PCBoard 15.0 with 20 lines on MS-DOS 80386 with 14000 MB storage. US Robotics at 19200 bps. \$Fee Flexible fee. Bringing you the world. Free online eval. time. 8 hrs/call, up to 32MB download/call. 90K+ files, 4K Int'l confs., Usenet/Internet, Immediate access with major credit card, Fantasy Area. Email to/from CompuServe, MCI. 10MB+ new files daily.

Toto's Playhouse BBS (916)686-1208 Sacramento, California since 05/92. Sysop: John Sheckles. Using TBBS 2.2 with 64 lines on MS-DOS 80486 with 24000 MB storage. AT&T at 14400 bps. \$30 Monthly fee. Northern Calif. Largest TBBS ADULT BBS. 36 CD-ROMS online. 1-800 Service available. CD-ROM time by the hour. CHAT, E-Mail, Games, Matchmaking, Lifestyles, Swingers area. Online Trivia games. Super friendly Sysops! Call Toto's Today!

For Adults Only BBS (916)962-3973 Sacramento, California since 01/88. Sysop: Dale DeBord. Using Oracomm-PLUS 7.1 with 17 lines on MS-DOS 80486 with 2000 MB storage. Practical Peripheral at 14400 bps. \$14 Quarterly fee. Sacramento's largest and friendliest Adult CHAT, FILES System. Adult Message Bases, CHAT, GIF, GL, DL, FLI, Text and Game FILES. FREE Member GIFs. DISCOUNT Member Plans for Students and Military. FREE 3-HOUR TRIAL PERIOD. DOWNLOAD ON FIRST LOGON!

Black Gold BBS (918)272-7779 Tulsa, Oklahoma since 06/81. Sysop: Michael Cline. Using PCBoard 15.1 with 17 lines on MS-DOS 80486 with 32000 MB storage. US Robotics at 57600 bps. \$30 Annual fee. Full PageSat and Planet Connect! 32+ gigs, 26 writable! 100 Doors, Full time SYSOP's and much much more. Many free areas and files with 45 minutes free access per day. 350 file areas, 3+ million messages less than 7 days old. Never Porno! Just hard work!

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BOARDWATCH MAGAZINE

NATIONAL LIST OF ELECTRONIC BULLETIN BOARDS AND ONLINE INFORMATION SERVICES - June 1994

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYSOP	LOCATION
ADA 9X Project Bulletin Board	(800)232-9925	ADA Programming Language Revisions and News	Chris Anderson/Susan Carlson	Eglin AFB, FL
ADA Information Clearinghouse	(703)614-0215	Information on ADA Programming Language/Military Specs	Department of Defense	Washington, D.C.
Advanced Data Services Inc.	(301)695-9116	22 line PCBoard with 5.5 GB of Files	Blaine Brodka	Frederick, MD
Alamo PC Organization	(210)496-5558	Numerous Files, Info	Robert Schoenert	San Antonio, TX
Albuquerque ROS	(505)299-5974	36000 files/USA Today/Tradewars/Online Games	Steven Fox	Albuquerque, NM
America's Suggestion Box	(516)471-8625	BBS Devoted to Collecting and Distributing Consumer Feedback	Joseph G. Jerszynski	Ronkonkoma, NY
American Cybernetics BBS	(602)968-1082	Multi-Edit Product Support BBS	American Cybernetics	Tempe, AZ
ANARC BBS	(913)345-1978	World Radio/TV Handbook - Short Wave Freq Lists/Scheds.	Assoc. of North American Radio Clubs	Shawnee Mission, KS
APCUG - GlobalNet	(408)439-9367	Association of PC User Groups - Over 2000 UG officers	Paul Curtis/APCUG	Scotts Valley, CA
Applied Modeling Research RBBS	(919)541-1325	Environmental Protection Agency Atmospheric Models	William Peterson/EPA	Hurdle Mills, NC
Aquila BBS	(708)820-8344	6 GB 25 Nodes Fidonet/Interlink/Metronet MCE IL/CHI Graphics	Kevin Behrens/Steve Williams/Doug Bell	Aurora, IL
Argus Computerized Exchange	(714)727-4723	Multiline Community Chat Service - Restaurant Review dbase	Pam Morrison	Lexington, MA
AST Technical Services BBS	(908)769-6397	Superb support system for AST Computer Products	AST Research Inc.	Irvine, CA
AT&T Support BBS	(416)756-4591	Support for PC 6300 and Other AT&T PC Models	American Telephone/Telegraph PC Division	Plainfield, NJ
ATI Support BBS	(713)530-8875	Support for ATI Modems and Video Cards	ATI Technologies	Scarborough, Ontario
Atomic Cafe BBS	(903)758-2784	Houston Area BBS list and Connect! Magazine	David Wachenschwanz	Houston, TX
Atri BBS	(714)681-6221	4 Gigs Online All Fidonet Message areas Over 200 door games	Walter Cade	Longview, TX
Attention to Details	(818)988-0452	Utilities/ASP/Patriquin Utills/Protocols	Clint Bradford	Mira Loma, CA
Audiophile Network	(513)624-0552	High-end Audio Components, Music, Video Reviews	Guy Hickey/Quatre Speakers	Van Nuys, CA
Automobile Consumer Services	(301)252-0717	New Car Pricing Reports - Used Car Value Reports	Automobile Consumer Services Inc.	Cincinnati, OH
AviTechnic 1:261/662	(214)680-3406	Software Distribution System - BBS Utilities	Tom Hendricks	Lutherville, MD
BBS America	(213)962-2902	Home of DFW Online Electronic Newsletter	Jay Gaines	Richardson, TX
BCS BBS	(617)964-2540	Los Angeles' First Super BBS Under Development	Jim Lee	Los Angeles, CA
BCS IBM BBS	(617)962-0882	IBM PC Topics - TBBS Software (Internet)	Boston Computer Society/Martin Hannigan	Boston, MA
BCS Mac BBS	(617)864-0712	General Topics - TBBS - Internet Mail	Boston Computer Society/Martin Hannigan	Boston, MA
Beach Board BBS 1:371/1	(813)337-4950	Macintosh Topics - Firstclass BBS Software	Dave Ward	Fort Myers, FL
Beyond Eternity	(310)371-3734	Over 100 online games - Internet Mail - 8 lines - 48000 fls	J. Black/K. Taghadossi	Torrance, CA
Beyond the Realm	(805)987-5506	Home of EEEK! Bits - Weekly Electronic Trivia Magazine	Lee Ladisky	Camarillo, CA
BMUG BBS	(510)849-2684	200+ message areas 60+ file areas Fidonet VNet Adult Topics	Berkeley Macintosh Users Group	Berkeley, CA
Boardwatch Magazine Online Info	(303)973-4222	Support for Macintosh owners - files - conferences.	Boardwatch Magazine	Littleton, CO
Book BBS	(215)657-6130	Distribution Service for USA Today/Boardwatch/Newsbytes	Business & Computer Book Store	Willow Grove, PA
Book Stacks Unlimited	(216)694-5732	Information on 2000 Computer Books - 800 order number	Charles Stack	Cleveland, OH
Borland Download BBS	(408)431-5096	200,000 Book Titles Database - Online Ordering	Borland International/Mike Fitz-Enz	Scotts Valley, CA
Botnay Bay EIS	(603)431-7229	Utilities, Macros, Programming Examples for Borland Products	Myles Bratter	Portsmouth, NH
Boundary Waters BBS	(218)365-6907	20 GB of Files - Adult areas - BBS Lists	Gary Knopp/InfoNorth	Ely, MN
Bruce's Bar & Grill	(203)236-3761	Canoe Trips/Resorts/Fishing/Wilderness in Minnesota	Bruce Lomasky	West Hartford, CT
Bryant Software	(303)733-0773	24-line Social System - Chat - Games - Downloads	Alan Bryant	Denver, CO
C.A.R.L. Library Service	(303)758-1551	Support & Demo of Bryant Software & TBBS Products	Colorado Alliance of Research Libraries	Denver, CO
CAD/Engineering Service	(615)822-2539	Citations to 4 Million Texts in Colorado Library System FREE	Stan Bimson	Hendersonville, TN
Canada Remote Systems	(416)213-6003	Computer Aided Design File Distribution Network 1:116/32	Neil Fleming/Jud Newell	Mississauga, Ontario
Capital PC User's Group BBS	(301)738-9060	23GB/400000+ files, 3500 Conf's, USENET, IBM/Amiga/Mac	Capital PC Users Group/Roger Fajman	Rockville, MD
Castle Tabby 107/412	(908)988-0706	One of the oldest PC User's Groups - 5500 members	Michael E. Connick	Bradley Beach, NJ
Caverns of the Abyss	(405)482-2980	Home of TABBY Fidonet Interface Program for Apple Macintosh	Shannon Graham	Altus, OK
CBBS/Chicago	(312)545-8086	4 Gigs Online CD Roms	Ward Christensen/Randy Suess	Chicago, IL
Celebration Station	(207)374-5161	First Electronic Bulletin Board - Since 2/16/78	Noel Stookey (Paul of Peter, Paul & Mary)	Blue Hill Falls, Maine
Central Point Software	(503)690-6650	Adventure Games, Chat, and Sigs - Children	Central Point Software Inc.	Beaverton, OR
		PC Tools - Central Point Anti-virus support board		

Channel 1	70-line PCBoard - 8 GB Files - Internet - 1000's msg. confs.	Brian Miller/Tess Heder	Cambridge ,MA
Chicago SysLink	Special Interest Areas for Ferret/Pet Owners. TRS80/Aviation	George Matyaszek	Benwyn ,IL
Chinet	UNIX System offering Internet Mail	Randy Suess	Chicago ,IL
City Lites PCBoard	9 GB files, Rimenet, Internet, FidoNet, ASP, Online Orders	John Lundell	Grand Forks ,ND
City Online	City Government BBS Rip/Internet & more	Troy Butzlaff	Diamond Bar ,CA
Classified Connection BBS	Giddy Girls - Nude GIF Images of the Girl Next Door	Bill Kennon	San Diego ,CA
Cleveland Freenet	Cleveland City Info/Public Library - Free Internet Mail Box	Case Western University/AT&T/Ohio Bell	Cleveland ,OH
Cloud Nine	15 msg. 30 Nodes	Harold Lucas	Houston ,TX
Colorado Connection	Breeding, Raising, Taming, Exotic Birds	Terry Rune/Dave McClauggage	Arvada ,CO
Community News Service (CNS)	News and Entertainment - 17 Lines Community Focus	Klaus Dimmler	Colorado Springs ,CO
Compact Audio Disk Exchange	Buy/Sell/Trade Compact Audio Disks Online	Wayne Gregori	San Francisco ,CA
Computer Business Services	Book/Publishing Consultant John C. Dvorak & Nick Anis' BBS	Nick Anis Jr.	Diamond Bar ,CA
Computer Garden	Treasure Hunting - Metal Detectors - Online Catalog	Milford P. Webster	Salisbury ,MD
Computing Canada Online	Adjunct to Excellent Canadian PC Newspaper	Computing Canada Newspaper	Willowdale ,Ontario
Crosstalk Communications BBS	Product Support for Crosstalk for Windows/MK4/XVI	Digital Communications Associates	Roswell ,GA
Cui-de-Sac Bar & Grill	Multiline Service - Ham Radio - Humor - TDBS Applications	Pete White	Holliston ,MA
CyberStore - a COCONET BBS	All lines to v.32bis/v.42/v.42bis. CyberTools for BBS'es	CyberStore Online Info. Systems Inc.	New Westminster ,BC
DAK Online Resource Center	DAK Mail Order Catalog - Breakmakers - CD ROMS - Computers	DAK Industries/Tom Krogh	Canoga Park ,CA
Dark Side of the Moon	Home of WAFFLE, Unix UUCP BBS Software for DOS and UNIX	Thomes E. Dell/Darkside International	Mountain View ,CA
Data Bank	Information HQ, Support Board, Net-Mail & Files	Bob Oylor	Lawrence ,KS
Data Core BBS	25 line Major BBS	Matthew Schoen/Delta Enterprises	Los Angeles ,CA
DataLink RBBS System	Weather Satellite Imaging, NOAA Satellite Tracking-AMSAT-NA	Dallas Remote Imaging Group/Jeff Wallach	Carrollton ,TX
Dawg Byte	ANSI Art Club 1:116/29	Kevin Snively	Nashville ,TN
Deep Cove BBS	16 line TBBS, 3500 MBytes files for IBM, MAC, Amiga	Wayne Duval	White Rock ,BC
Denver Exchange, The 104/909	Denver's Most Diverse Gay/Lesbian Info Service	James Craig	Denver ,CO
Denver Free-Net	Free Community Online Service - Health Info	University of Colorado Health Science	Denver ,CO
Distant Mirror BBS	Free Access BBS	Steve Perlo	Clarksville ,TN
Distributed Info Service	Information Service	Joseph Bianco	Staten Island ,NY
DNIS	Outstanding BBS Gateway to multiple information services	Mike Simmons	Palm Springs ,CA
Duke Graphics of San Diego	7 CD Roms Online, 4 gigs 50,000 files	Chris Duke	San Diego ,CA
EarthArt BBS	Wildlife/Conservation Art Gallery GIF Images	Ambassador Wildlife Gallery/Bob Chapman	North Charleston ,SC
Ed-Net	Vancouver School Board Multi-Line Educational Network	Barry Macdonald/Vancouver Board of Ed	Vancouver ,BC
Electric Ideas Clearinghouse	Energy Efficiency Efforts in Pacific Northwest-HydroElec	Bonneville Power Administration WSE	Olympia ,WA
Electronic Publishers BBS	News-Finance-Sports-Games-2GB File Library	Brian Cash	Portland ,OR
Electronic Zone, The	Specializing in Hypertext	William R. Forbes	Indiana ,PA
Energy Info Admin E-Publications	Variety of Petroleum/Coal/Electricity Energy Statistics	US Department of Energy	Washington ,D.C.
Entertainment & Graphics	Entertainment & Graphics	Jim Maxey	Lake Oswego ,OR
eSoft Product Support BBS	Home of The Bread Board System (TBBS) BBS Software	Phil Becker/eSoft Inc.	Aurora ,CO
Event Horizons	64 Line Digitized Graphics Image Library - Adult. GIF files	Jim Maxey	Lake Oswego ,OR
EXEC-PC	Largest BBS in US - 280 Lines -650,000 files - 35 Gigabytes	Bob and Tracey Mahoney	Elm Grove ,WI
Executive Network	Interlink Netmail National Host - Multiline PCBoard System	Andy Keeves	Mt. Vernon ,NY
Eye Contact BBS	22 line Oracom - Gay Issues - Popular Chat System	Bill Montgomery	Mill Valley ,CA
FAA Flight Standards ASO-FSDO-15	FAA Flight Standards Publication & Info for the Aviation Com	FAA/Bill Hoenstine	Woodbridge ,VA
Falken Support BBS	Support for FALKEN software - 16 lines - doors - chat	Herb Rose	Victoria ,BC
Farwest BBS	Large Western Canada Galacticom Info System	Ren L'Ecuier	San Diego ,CA
FAX/Satellite Services BBS	NOAA Weather Satellite Images - Russian/Japanese Sat Pics	Scotty Olson	Columbia ,MD
FCC Public Access Link	Equipment Authorization Status Advisory Service	Federal Communications Commission	Washington ,D.C.
FEDLINK ALIX II	Info on Federal Libraries -Excerpts Library of Congress News	Federal Library Information Network	Utrecht ,Holland
Fido Tech Stand	Fidonet Technical Information for Holland	J.J. van der Maas	Drayton Plains ,MI
Fire & Ice	A Family BBS With Christians Discussions	William Sims	Carroll ,OH
Fisherman's Net	Dedicated to Fisherman	Lloyd Davidson	San Francisco ,CA
FOG City BBS 125/10	Gay Community BBS - AIDS Info - Desktop Publishing - MACs	Bill Essex	Stanford ,CT
Foundation Online Service	15+ Gigs 8 Lines Internet	David Deutsch	Framingham ,MA
Fred the Computer	Newspaper BBS. Wierdnet Newswire. List of MA Libraries	Middlesex News-Adam Gaffin	

BOARDWATCH MAGAZINE

NATIONAL LIST OF ELECTRONIC BULLETIN BOARDS AND ONLINE INFORMATION SERVICES - June 1994

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYSOP	LOCATION
FreeBoard BBS, The	(804)744-0797	Desktop Publishing File Distribution Network 1:264/212	Bill Hunter	Midlothian, VA
Fun Connection	(503)753-8431	Multiline Entertainment - 8 Lines Games/Chat/News	Vincent Reece	Corvallis, OR
Galacticomm Demo System	(305)583-7808	Customer support for Major BBS	Galacticomm	Fort Lauderdale, FL
Garbage Dump	(505)294-5675	Hottest Chat in America - National Access \$1.75 per Hour	Dean Kerl & Simon Clement	Albuquerque, NM
Gateway Communications BBS	(714)863-7097	Novell Netware/TCP-IP Shareware Utilities	Carol De Jesus	Irvine, CA
Gateway On-Line	(313)291-5571	Interactive Chat, Multiplayer Games, Usenet/Internet, E-mail	Jeff Breithner/Bill Mullen	Rockwood, MI
GDP Technologies	(303)673-9470	Outstanding IBM Shareware on a small system	Tom Getty's	Lafayette, CO
General, The	(619)281-8616	Popular File Library - GIF Images	Marc Teitler	San Diego, CA
GISnet BBS	(303)447-0927	Graphics Information Systems/Mapping topics	Bill Thoen	Boulder, CO
GLIB	(703)578-4542	Gay and Lesbian Information Bureau - 11 Lines - 9600 bps	Community Educational Svcs. Foundation	Arlington, VA
GPO WINDO Online Service	(202)512-1387	Fed Information from EPA, DOE, State Department - others.	US Government Printing Office	Washington, DC
Greenpeace Environet	(415)512-9108	Ecological and Peace Issues - Disarmament/Toxics/Wildlife	Dick Dillman/Greenpeace	San Francisco, CA
Hackers R Us Online	(602)945-8416	Online Games, Files & Tech Discussions	David Ray	Scottsdale, AZ
Hackers World BBS	(309)672-4405	Adult Files, Fidonet Echo-Mail Adult-net	Martin Belcke	Peoria, IL
Harris City Medical BBS	(713)790-1093	Medical Information	Monica Faulk	Houston, TX
Hayes Advanced Systems Support	(800)874-2937	Customer Support Line for Hayes Customers. V-series/Ultra	Hayes Microcomputer Products	Norcross, GA
Heartland Free-net	(309)674-1100	Community Online Service - Free Internet E-Mail Boxes	Peoria County Board/Bradley University	Peoria, IL
Herpnet/Satronics TBBS	(215)698-1905	Reptile and Amphibian Studies - Poison Snakes/Toads/Fish	Mark Miller	Philadelphia, PA
HH Info-Net BBS	(203)246-3747	MS Windows and OS/2 Files our specialty	Lee Winsor	New Hartford, CT
HoloNet	(510)704-1058	National Access, INTERNET, USENET, CHAT, GIFS, FILES	Information Access Technologies, Inc.	Berkeley, CA
HouseNet BBS	(410)745-2037	Home Fixup/Repair/Renovation Tips, Advice, and Articles	Gene and Katie Hamilton	St. Michaels, MD
Howard's Notebook 1:280/25	(816)331-5868	Environmental, Peace, Justice since 1982 - 4 nodes	Jim Howard	Kansas City, MO
Hysterics	(613)231-7144	Amiga File Distribution Network 1:163/109	Russell McOrmond	Ottawa, Ontario
IBM National Support Center BBS	(404)835-5300	IBM PC User Groups Database - Newsletter Exchange	IBM National Support Center	Atlanta, GA
Inbound/Outbound/Teleconnect	(212)989-4675	Telephone Sales Trade Magazine Online Service	Harry Newton Publications	New York, NY
Infinite Space Online	(407)856-0021	32 Line Interactive Chat & Games Majornet	Charlie Scherker	Orlando, FL
InfoHost Demo BBS	(201)335-2253	Demo BBS for InfoHost BBS Software - Multiline - Database	A-Comm Electronics Inc.	Dallas, TX
Inns of Court, The	(214)458-2620	LAN Related Files and Utilities 1:124/6101	Arthur Geffen	Hillsborough, OR
Intel PCEO Support BBS	(503)645-6275	Support for Intel PC Products - Inboard 386/AboveBoard 286	Intel Corporation PCEO Division	Spark, NV
Inter Comm	(702)359-2666	6 Line 5.5 Gig 30,000 Files	Roger Brown	Hollywood, FL
InterMail Tech Support BBS	(305)436-1884	Home of InterMail, Front End Mailer for FidoNet 1:369/102	Patrik Bertilsson	New York, NY
Invention Factory	(212)274-8110	46 Lines - 100 Directories - Full Usenet Feed - 8.2 GB	Mike Sussell	Bellevue, WA
Investor's Online Data	(206)285-5359	Online Investment/Stock Market Information/Tech Analysis	Don Shepherdson	San Jose, CA
JDR Microdevices BBS	(408)559-0253	Online Hardware Order - Catalog - 1.1 GB Files - Quizzes	JDR Microdevices	Roswell, GA
JOBBS	(404)992-8937	Online Job Listings - 2186 Technical Pos. - 10,000 Corps.	Alpha Systems Inc./Bill Griffin	Nyack, NY
Keith Graham Shareware Support	(914)623-0039	OPTIK, TEXT2COM, CBOOT, very good shareware utilities	Keith P. Graham	Minneapolis, MN
KIMBERLY BBS	(612)340-2489	Prime Rate-Fed Funds-T-Bill-Discount Rate-Economic Data	Jim and Karen Burt	Boulder, CO
King's Market BBS 104/115	(303)665-6091	400 MB Books, Writers Area - TRS 80 Support	Matthew Beelby	Pasadena, CA
Knight Vision BBS	(213)344-3600	Chess and Backgammon - 8 lines - "Intelligent Entertainment"	Ellen Grogan	New York City, NY
Lace's Place	(718)822-3552	Female Domination Adult BBS online since 7/91	Artisoft Inc.	Tucson, AZ
LANTASIC BBS	(602)293-8065	Support for LANtastic local area network	Tim Pozar	San Francisco, CA
Late Night Software 125/555	(415)695-0759	Home of UFGATE - Software to connect PCs to UUCP/Usenet	Bill Sorcinelli	Spokane, WA
LegalEase	(509)326-3238	Legal issues/Forms - Law BBS List	Dave Minott	Valley Stream, NY
LICA Limbs BBS	(516)561-6590	Member written software PC Board 15.0 USR HST Since 1980	Steve Pomerantz	San Francisco, CA
Lincoln Cabin BBS	(415)752-4490	General Interests & Rime	Mark Smith	Montreal, Quebec
MAC-LINK	(514)486-8959	Macintosh Oriented Support BBS - 6 Lines - Informa/BIX	Jeff Driggs/FreeSoft Company	Beaver Falls, PA
Macalot Bulletin Board	(412)846-5312	Support for Second Sight BBS Software for Macintosh		

MacCircles	(303)526-2219	Mac System Software distributor, mail, sigs, files	Patricia O'Connor	Golden, CO
MacInternational	(803)798-3755	Macintosh support since April '85. FirstClass BBS	Ralph Yount	Columbia, SC
Magpie BBS	(212)420-0527	Support/Demo System for Magpie BBS/Conferencing Software	Steve Manes	New York, NY
MaxiHost Support BBS	(209)836-2402	MaxiHost BBS - small, very easy to run BBS	Don Mankin	San Ramon, CA
Mayan Antiquities	(214)691-1316	Mayan Culture and Antiquities	Ron Whipple	Dallas, TX
McAfee Associates BBS	(408)988-4004	Computer Virus Information - VIRUSCAN and CLEANUP	John McAfee/CVIA	Santa Clara, CA
Med Technet	(716)688-1552	A BBS for Medical Info	Bill Hliwa	East Amherst, NY
Medi-Call BBS	(818)330-1739	Active 2 lines PubSvc w/ 120 netmail confs., & GIGs of Files	Gordon Huyck	La Puente, CA
Meeting Works, The	(212)737-6932	Meeting/seminar/convention planning information.	John Mackenzie	New York, NY
METRO Online Entertainment	(212)831-9280	32 line DLX with City Guide/Ski Database - Matchmaker - Chat	Bruce Kamm/Metro Online Services	New York City, NY
Micro Foundry, The	(415)598-0398	2.2 GB Downloads - Your Online Software Source - Boardwatch	Thomas Nelson/Clockwork Software	San Jose, CA
Micro Message	(919)779-6674	USA Today/Boxoffice Magazine - Large Download Area	Mike Stroud	Raleigh, NC
Microim Technical Support BBS	(206)649-9836	Support for Popular R:Base Relational Data Base System	Microrim Corporation	Redmond, WA
Microsoft Download BBS	(206)936-6735	Windows Technical Notes and Support Information	Microsoft Corp/Scott J. Honaker	Bellevue, WA
Microsystems Software Inc.	(508)875-8009	HandWare Software for Handicapped - CodeRunner C Utilities	MSI - Reed Lewis	Framingham, MA
MindVox	(212)989-4141	Internet Access, E-Mail, Newsgroups, fp/telnet	Ben Husset	New York, NY
Minnesota Space Frontier	(612)459-0892	Minnesota Space Frontier Society - NASA News	Tom Tcimpidis	Minneapolis, MN
MOG-UR'S EMS, The	(818)366-1238	5 Lines - 8 Networks CD-ROMS - 2.8 GB Hub Services HST/V.32	David Janakes	Granada Hills, CA
Monterey Gaming System	(408)655-5555	A Custom Multi-user BBS with Conferencing and Custom Games	Edward Lee Wood, Jr.	Monterey, CA
Mountain Air BBS	(703)427-0226	Adult Based BBS	Clarke Ulmer	Roanoke, VA
Movie BBS	(718)939-5462	Movie Reviews and Information - Television	Rob Nail	New York, NY
Mustang Software	(805)873-2400	Support for Mustang Software Products	MSI Sysop	Bakersfield, CA
N.A.C.D. BBS	(912)246-3280	Cave Scuba Diving - Superb Special Topic System	National Assoc. of Cave Divers	Gainsville, FL
N8EMR Ham BBS	(614)895-2553	login:hbbs HAM Radio/AMSAT Unix System - Satellite/Packet	Gary Sanders	Westerville, OH
Namu BBS	(913)273-1550	Amateur Radio Interests	MicroStar Corp.	Topeka, KS
NAPLPS Graphics BBS	(613)727-5272	NAPLPS Graphics Terminal and Editor Software	Marshall Space Flight Center	Nepean, Ontario
NASA Spacelink	(205)895-0028	NASA Educational Affairs Div. - Flight Data/Space History	Ben Cunningham	Huntsville, AL
Nashville Exchange	(615)383-0727	12 line TBBS - Games/TBBS Software Development 1.8 GB	National Genealogical Society	Nashville, TN
National Genealogical BBS	(703)528-2612	Family History - Genealogical Research - Gravestone Haunting	Netcom Online Communications Services	Arlington, VA
Netcom Internet Guest System	(408)241-9760	Internet Access System - type "guest" at login for info.	Network World Magazine	San Jose, CA
Network World Bulletin Board	(508)620-1178	LAN and WAN Issues and Technology	William Brydges	Framingham, MA
Newbed	(506)453-2147	Educational System K12 Net	Anthony Maglietta	Frederickton, NB
Newtown Express BBS	(215)943-6806	14.5 Gigs/700+Sigs 18 Lines Large Adult Section USA Today	Charles Hilt	Newton, PA
Night Shift, The	(818)955-5155	16 lines/chat/Usenet Newsgroups/Internet Mail/USATODAY	Burbank, CA	Boulder, CO
NIST ACTS	(303)494-4775	Automated Computer Telephone Service - Sync PC to NBS Time	Nat. Institute for Standards/Technology	Boulder, CO
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North Castle BBS	(507)281-8292	Minnesotas #1 RPG BBS	Greg Day	Livonia, MI
O&E Online	(313)591-0903	Free Community BBS, Editorial Text from Newspapers	Environmental Protection Agency	Research Triangle Pk, NC
OAQPSITTN	(919)541-5742	Air Quality Planning and Standards Technology Transfer Net	Robert Orr/Online Atlanta Society	Decatur, GA
OASIS BBS	(404)627-2662	Home of Atlanta Bulletin Board List - ABBL	Mike McCann/Center for Safety in Afts	New York, NY
Occupational Health/Safety BBS	(212)385-2034	Job Safety Issues for Artists, Musicians, Entertainers	Michael Allen	Monrovia, CA
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Odyssey	(818)358-6968	Adult Multiline Chat System - Games - Magazines - Downloads	US Department of Education	Washington, D.C.
OERI BBS	(800)222-4922	Educational Statistics and Data - Performance Stats -	Dave Hughes	Colorado Springs, CO
Old Colorado City Communications	(719)632-4111	Political Discussions - Unix UUCC Public Access - Multiline	Gary Walsh/Tom Haavisto	Thunder Bay, Ontario
Online Now	(807)345-5522	Canada's shareware house is online now	Hayes Microcomputer Products	Norcross, GA
Online With Hayes	(404)446-6336	Hayes Public Bulletin Board - Conferences/SIGS/Support	Don Crago	Pooraka South Australia
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Oracom Support BBS	(612)894-5879	Sales and Support for Oracom Multiline BBS Software	Fran and Norm Saunders	Colesville, MD
Osprey's Nest	(301)989-9036	Birdwatching, Bird feeding, Naturalist/Ecology issues	Mike Mathews	New Orleans, LA
Ozone Hole, The	(504)891-3142	Boardwatch-USA Today-Internet-Usenet-RIME	James Toro	Hicksville, NY
P.D.S.L.O. BBS	(516)938-6722	Home of THE LIST National BBS List	Gwyn Reedy/PacCom Inc.	Tampa, FL
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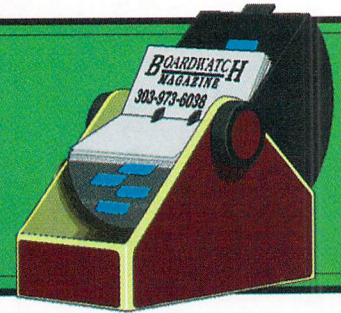
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NATIONAL LIST OF ELECTRONIC BULLETIN BOARDS AND ONLINE INFORMATION SERVICES - June 1994

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYSP	LOCATION
PC Junction BBS	(615)478-2890	Smartnet Throbneth 100,000 Files & Online Magazines	Douglas Carpenter	Cleveland, TN
PC Ohio	(216)381-3320	Shareware library with 100% USR HST access - 24 lines	Norm Henke	Cleveland, OH
Pennywise	(800)752-3012	Online Office Supply Sales Service	Pennywise	Edmonston, MD
PHYSICS Forum BBS	(413)545-1959	Physics and Astronomical Sciences	Univ of Mass. Dept. of Physics/Astronomy	Amherst, MA
Pinecliff BBS 104/28	(303)642-7463	Large Shareware Library/Echomail Conferences since 1985	Craig Baker	Pinecliff, CO
Pinnacle Software BBS	(514)345-8654	Support for Sapphire BBS Software	Timothy Campbell/Pinnacle Software	Montreal, Quebec
Pipeline, The	(209)592-9861	Construction topics for contractors, suppliers, public works	Michael W. Adams	Fresno, CA
PKWare BBS	(414)354-8670	Home of PKZIP 1.10 Compression Utility	Phil Katz/PKWare Incorporated	Glendale, WI
Pleasure Dome	(804)490-5878	Sexually Explicit Fantasy Chat System - Adults only	Tom Terrific	Tidewater, VA
Practical Peripherals BBS	(805)496-4445	Support BBS for Practical Peripherals Modems	Practical Peripherals	West Lake Village, CA
ProComm Support BBS	(314)875-0503	Home of ProComm 2.4.3 and ProComm Plus Comm Prgrms	Thomas Smith/DataStorm Technologies Inc.	Columbia, MO
Promised Land, The	(715)387-1339	16-Line/2.5GB/11,000+ Files/ WINDOWS, Chat & More	Tim Brown/Computer Solutions	Marshall, WI
Public Brand Software BBS	(317)856-2087	Commercial Shareware Vendor	Public Brand Software	Indianapolis, IN
Public Connection	(817)738-7336	Public Files	Joe Coles	Ft Worth, TX
QMail Deluxe Support BBS	(615)230-8822	Support for QMail Deluxe and 1stReader offline mail utils	Mark (Sparky) Herring	Germantown, TN
Qualitas, Inc. BBS	(301)907-8030	386MAX and BlueMAX Memory Management Software Support	Qualitas Inc.	Bethesda, MD
Quarterdeck BBS	(310)314-3227	Technical Support for QEMM, DESQview, all Quarterdeck Prods	Quarterdeck Office Systems	Santa Monica, CA
QuickBBS Support BBS 363/34	(407)896-0494	Product Support for QuickBBS Software	Richard Creighton/Steve Gabrilowitz	Orlando, FL
Random Access Information Svc.	(503)695-3250	11,000 GIF Images - 20,000 DOS/Windows Shareware Files	Janice Stevens	Corbett, OR
RoboBOARD/FX	(819)682-7771	RoboBOARD Support 8 Lines	Hamilton TeleGraphics Inc.	Aylmer, PQ
Ronin BBS	(214)938-2840	Traditional File and Message BBS	Chuck Mattern	Red Oak, TX
Rose Media	(416)733-2780	19 GB - Home of Rosemail - Publications/Conferences	Vic Kass	Willowdale, Ontario
Rusty & Edies	(216)726-0737	Large ML PCBoard run by Husband and Wife - NFL/Tradewars	Rusty and Edwina Hardenburgh	Boardman, OH
Sahara Club BBS	(818)893-1899	Land-Use issues, Off-Road, Timber, Conservation	Patrick Martin/Sahara Club	North Hills, CA
Salt Air BBS	(801)261-8976	Home of PCBoard BBS Software - National List of PCB Sys	Clark Development Company/David Terry	Murray, UT
San Diego NeXT User's Group BBS	(619)456-2522	Support for NeXT Computers	Brian Dear/San Diego NeXT User's Group	San Diego, CA
SBA Online	(800)697-4636	Advice for Small Business Owners on Financing/Management	Small Business Administration	Washington, DC
Science Resource Studies BBS	(202)634-1764	Federal R&D Budget - Technical Labor Market Statistics	National Science Foundation	Washington, D.C.
SDN Project, The 1:141/840	(203)634-0370	The Original Software Distribution Network	Ray Kalliss	Menden, CT
SEAbord!	(804)442-6047	Support system for ARC, SEADOG, and AXE software.	System Enhancement Associates	Nassawadox, VA
Seagate Technical Support BBS	(408)438-8771	Installation and Specifications for Hard Drive Models	Seagate/Bill Rudok	Scotts Valley, CA
Searchlight BBS	(516)689-2566	Support system for Searchlight BBS Software	Searchlight Software	Stony Brook, NY
SemWare Support BBS	(404)641-8968	Home of QEdit - A Superb Shareware Text Editor	Sammy Mitchell/SemWare Software Products	Marietta, GA
SENDIT	(707)237-3283	North Dakota K-12 Educational Net-telnet sendit.nodak.edu	Gleason Sackman/NDU	Fargo, ND
SIGCAT BBS	(703)648-4168	CD-ROM/Optical Publishing Info - Lists of Gov. CD Data	SIG on CD-ROM Applications and Technol.	Gathersburg, MD
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Society for Technical Comm. BBS	(703)522-3299	STC Job Service, Freelance Registry - Technical Writers	Society for Technical Communication	Washington, D.C.
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Source for Source, The	(516)968-7824	Source code - large LINUX file collection	Erik VanRiper	Bay Shore, NY
Space BBS	(415)323-4193	Multi Node BBS for Engineers	Owen Hawkins	Menlo Park, CA
Spark*Net	(718)447-5544	Internet E-Mail, Worldlink, Chat, Games, Forums, Files	John Spark	New York City, NY
Spectrum Online Systems	(719)576-6853	Graphics Based Service, Full Internet Access	Chris Phillips	Colorado Springs, CO
Star Tech BBS	714-257-1175	LA/Orange local access Fidonet hub, file echos, and internet	David Unfried	Orange County, CA
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Starlink BBS	(915)235-4818	Technical Support for Predictive Maint Customers	John Land	Sweetwater, TX

StarLink Information Services	(502)984-7827	Online Travel Service, Internet Movie Reviews & Weather	Scott Goldbach	Louisville ,KY
State and Local Emergency Mgmt. Stream	(202)646-2887	Hazardous Materials/National Dam Watch/Emergency Info Connection to the World of New York Book Publishing	Federal Emergency Management Agency	Washington ,D.C.
Sun Valley Net	(718)349-8137	Information & Files on environment & outdoors	BookStream	Brooklyn ,NY
Superdemocracy Foundation BBS	(208)726-1435	Online Democracy/Political Culture for the Future	Stephen Schowengert	Ketchum ,ID
T-80 BBS	(305)370-9376	3.6 Gigs, 4 CD Roms 7,000 GIFS 20,000 Shareware Programs	Tim Stryker	Davie ,FL
TAXACOM	(403)246-4487	Botany, Herbaria, FLORA ONLINE Newsletter, Latin Translation Demo/Support for TEAMate BBS Software for Unix	Brian Simpson	Calgary ,AB
TEAMate Unix Bulletin Board	(716)896-7581	Home of ZModem File Transfer Protocol/YModem/YAM DBMS/Dr. Dobbs Journal Magazine Online Service	Clinton Herbarium, Buffalo Museum	Buffalo ,NY
Telebit Support BBS	(310)318-5302	Support Service for Telix Communications Software	Bob Baskerville/MMB Development Corp.	Manhattan Beach ,CA
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The Well	(717)657-2223	Online System for Classified Advertisements	George Peace	Harrisburg ,PA
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Tiger Team Buddhist Info Network	(703)373-9289	NAPLPS Graphics BBS System	John Schreiber	Falmouth ,VA
Titan BBS	(501)268-0102	Support for US Robotics HST 9600 bps Modems	Gary L. Ray	Berkeley ,CA
Tool Shop BBS	(904)476-1270	Time - Date - Sunrise - Sunset - Enter @TCO for Commands	Clayton Manson	Pensacola ,FL
Town Hall	(818)891-6780	Currently available grants and contracts for Education	Sam Smith	San Fernando ,CA
Traders Connection	(800)441-4142	Earthquake Epicenter Data - Geomagnetism 7E2 800-358-2663	National Review/Heritage Foundation	Washington ,DC
Trinity 1 BBS	(317)359-5199	Xmits ASCII Time String - Sync Your PC to USNO Atomic Clock	Carson Hanrahan	Indianapolis ,IN
TurBoard	44 392 410210	Online Library Card Catalog Listing 3.5 million entries	John Burden	Exeter Devon ,U.K.
U.S. Robotics - Sit UBU Sit	(404)395-6327	Online Weather Forecasts for Any City - Download Radar Data	Software@work	Chattanooga ,TN
US Naval Observatory BBS	(708)982-5092	Hard Drive/Controller Installation and Config Data	U.S. Robotics Corporation	Skokie ,IL
USDOE BBS	(202)653-1079	Area's Largest/Most Active Adult System-Chat E-mail, Games, Multiline Support System for Wildcat BBS Software	US Department of Commerce US Naval Observer	Washington ,D.C.
USGS Quick Epicenter Determin.	(202)260-9950	Over 120 Online games Tabs Subscription	U.S. Dept. of Education/George Wagner	Washington D.C. ,
USNO Time of Day for Clocks	(303)273-8672	Multi-Line Totally Free BBS-Multi Player Games, Files, Message Word Perfect 4.2/5.0/5.1 Support/Printer Drivers	US Geological Survey Earthquake Info Cnt	Denver ,CO
UT Library Online Catalog	(202)653-0351	Reformed Protestant Topics; Telefinder Host	US Naval Observatory	Washington ,D.C.
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Western Digital Tech Support	(800)827-2727	Support for XWrite Word Processor - Custom Keyboard Files	Steve Root/WeatherBrief Data Services	Salt Lake City ,UT
Westside, The	(714)753-1068	Disability Rights Issues - Variety of Disability Newsletters	Western Digital Corporation	Irvine ,CA
Wildcat HQ BBS 210/12	(213)933-4050	Demo/online support for XChange UNIX BBS	Dave Harrison	Los Angeles ,CA
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Word Perfect Customer Support	(614)224-1635		Joseph G. Balshone	Columbus ,OH
Worldview BBS	(801)225-4444		Word Perfect Corporation	Orem ,UT
WWIV Support BBS	(510)676-2919		Bill Gram-Reefer	Concord ,CA
XTree BBS	(310)208-6689		Wayne Bell	Rolling Hills Estates ,CA
XyQuest Support BBS	(805)546-9150		XTree Company	San Luis Obispo ,CA
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ZIMax XChange UNIX BBS	(512)451-3222		Bill Scarborough/Cyanosis Rex	Austin ,TX
	(315)635-1947		ZIMax Computer Solutions, Inc.	Baldwinsville ,NY

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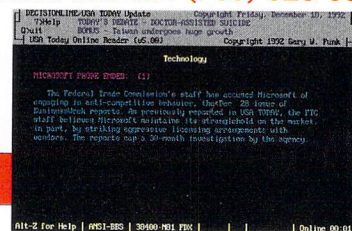
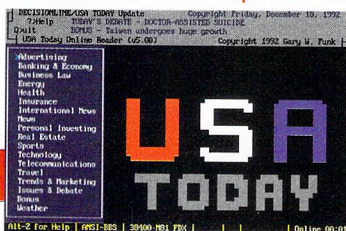
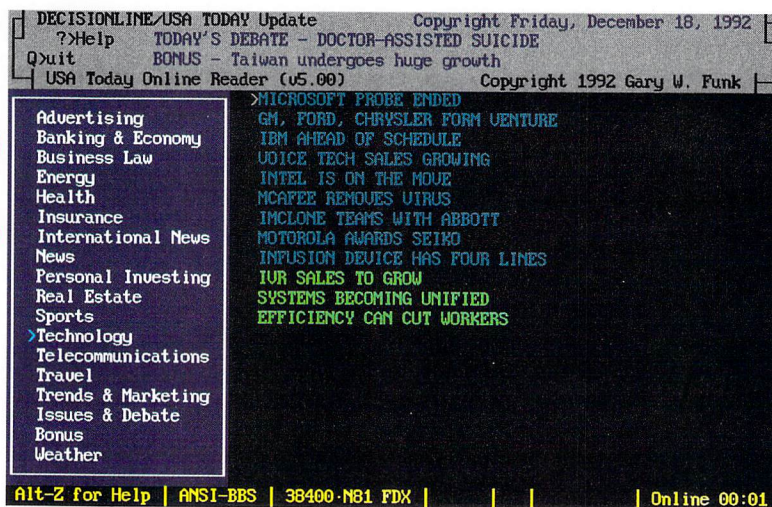
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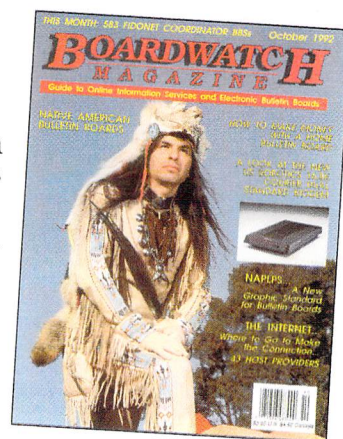
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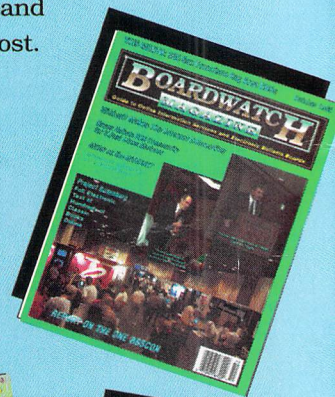
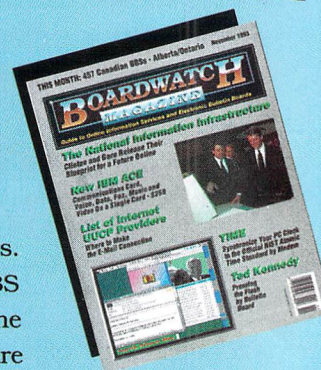
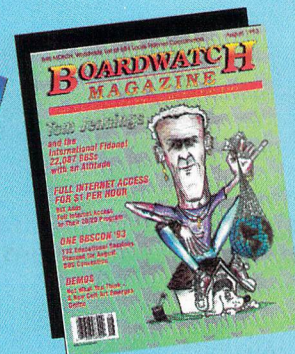
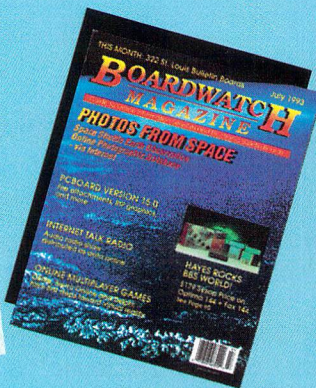
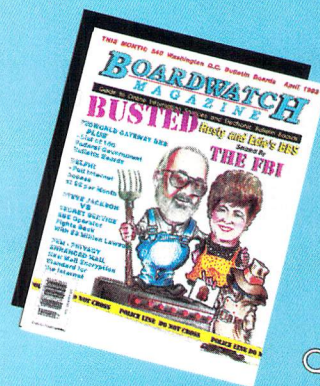
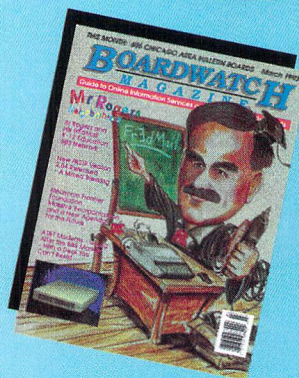
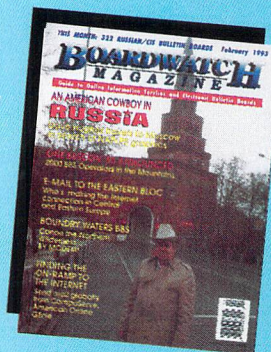
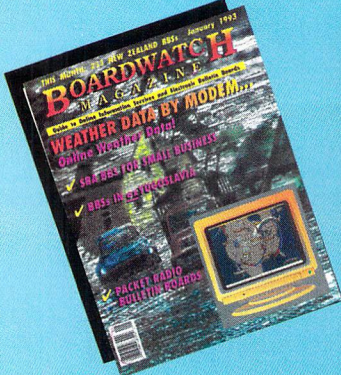
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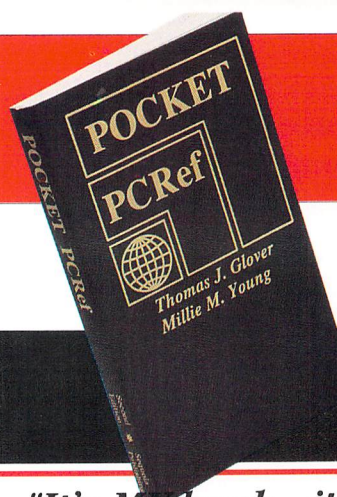
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DOS Command reference - all of them through version 6.0 - some 200 pages.

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PC Industry Phone Book - a little over 3500 telephone numbers of companies prominent in the personal computer industry. That gets thumbed a bit.

Hard Disk Configuration Data - ever lose your CMOS? You're hard disk disappears. All your data is there, and you can easily get it back, if you can just remember how many heads, how many cylinders, how many sectors per track, a little info on the landing zone, etc. Rub a lamp. This little book lists 2300 different drives with exactly the info you need to get back up in seconds.

- Hayes AT modem command set - all of it.
- Keyboard scan codes - all of them.
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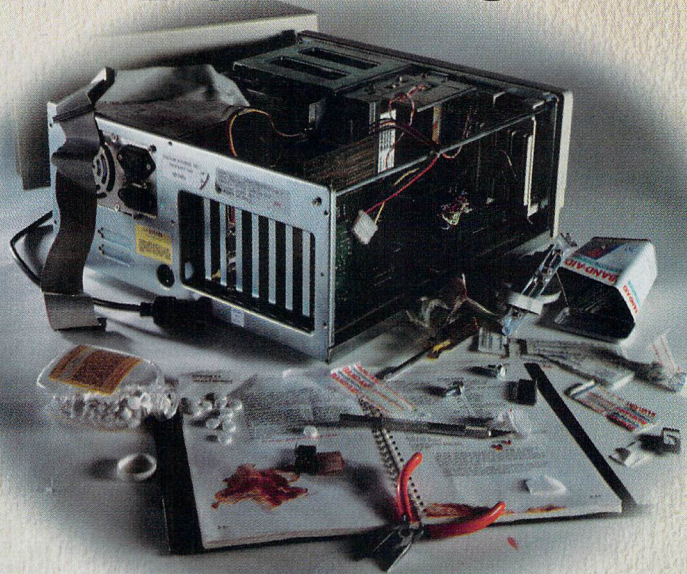
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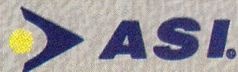
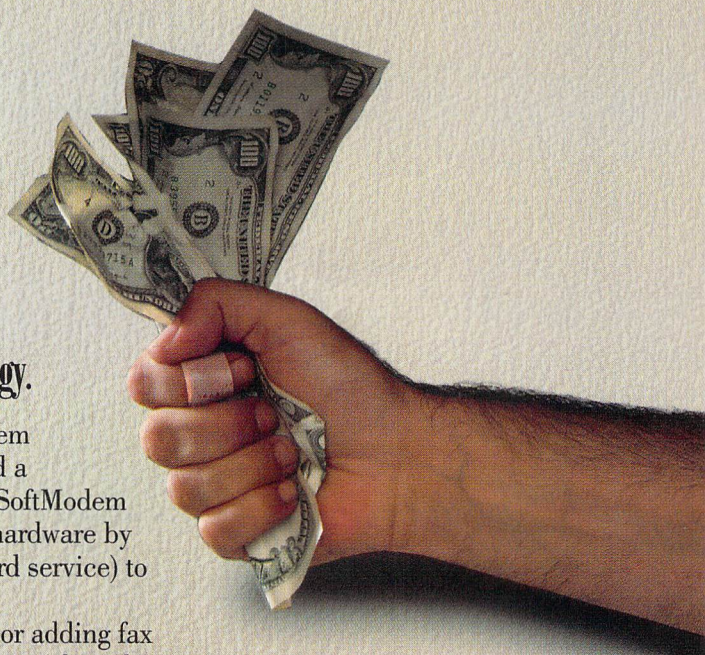
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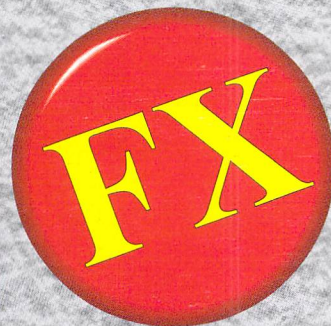


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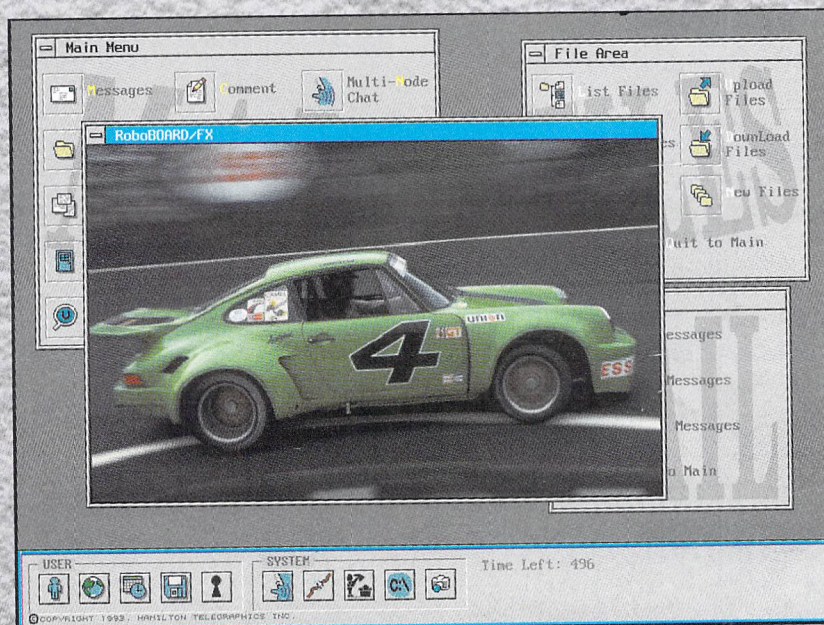


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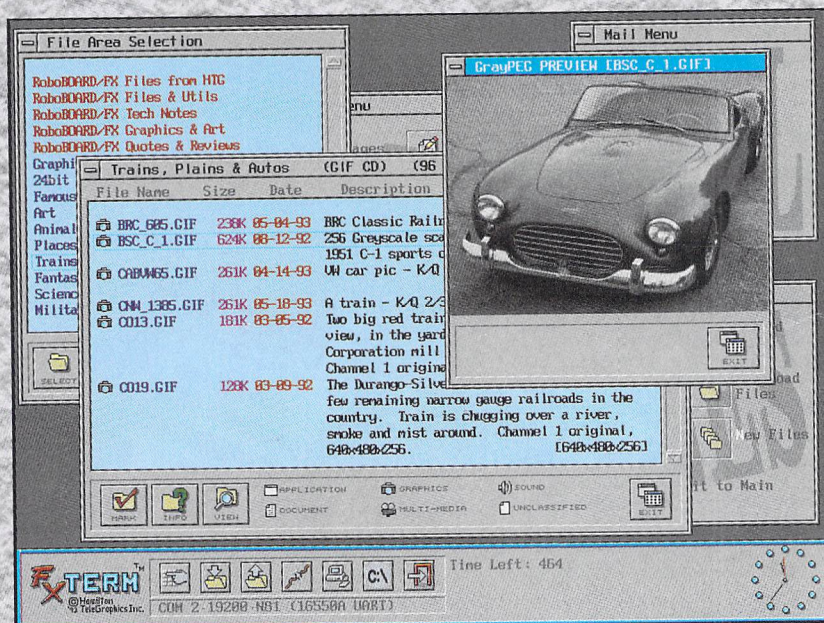


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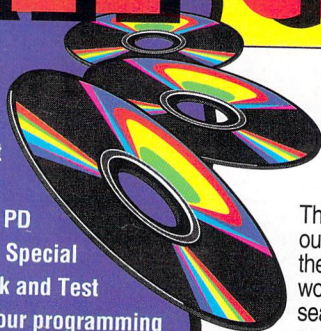


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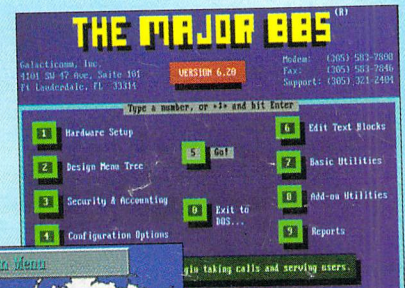
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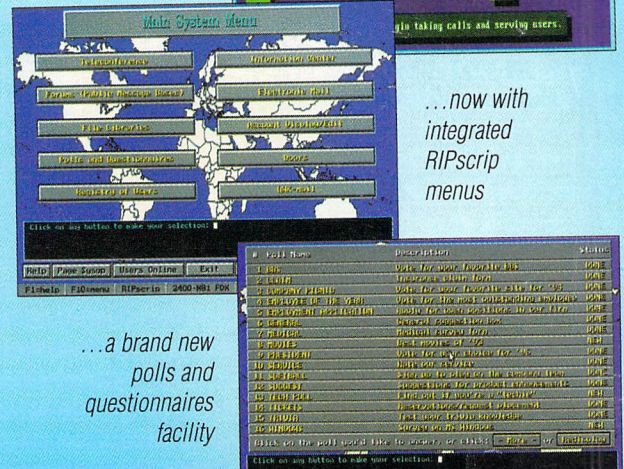
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